REPORT, RETURNS AND STATISTICS

OF THE

INLAND REVENUES

OF THE

DOMINION OF CANADA

FOR THE FISCAL YEAR ENDED JUNE 30

1901

PART II

INSPECTION OF WEIGHTS AND MEASURES, GAS AND ELECTRIC LIGHT

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
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1901

[No. 13—1902.]

REPORT

OF THE

DEPUTY MINISTER OF INLAND REVENUE

ON THE

INSPECTION OF WEIGHTS AND MEASURES, GAS AND ELECTRIC LIGHT

To the Honourable
The Minister of Inland Revenue.

SIR,—I have the honour to submit herewith my annual report on the inspection of weights and measures, gas and electric light, with the usual statements in connection therewith, for the fiscal year ended June 30, 1901.

1. The total revenue collected during the year for the inspection of weights and measures was $54,385.56, as against $53,635.04 collected during the year ended June 30, 1900.

2. The total expenditure was $71,280.37, as against $68,707.55 expended during the year ended June 30, 1900.

3. Appendix 'A' gives a summary statement of the receipts and expenditures of each inspection division.

4. In Appendices 'B,' 'C' and 'D' will be found a detailed statement of weights, measures and weighing machines presented for verification verified and rejected during the year. The number of all descriptions may be summarily stated as follows:—

—	Presented.	Verified.	Rejected.	Percentage of Rejections.
Weights, Dominion	62,281	61,553	728	1·16
Measures of capacity, Dominion	84,327	84,205	122	0·14
Lineal measures	7,122	6,978	144	2·02
Balances, equal arms	12,089	11,784	305	2·52
" steelyards	4,654	4,520	134	2·87
" platform scales	31,000	29,964	1,036	3·34
Troy weights	67	67	.....	.....
Irregular weights	687	685	2	·29
" measures	488	486	2	·40
" balances	5,876	5,688	188	3·20

INSPECTION OF GAS.

5. The total revenue collected during the fiscal year ended June 30, 1901, for the inspection of gas and gas meters, was $22,173.55, as compared with $21,106.75 collected during the year ended June 30, 1900.

6. The total expenses were $23,338.49, as against $22,706.16 expended during the year ended June 30, 1900.

7. Appendix 'E' gives a summary statement of the receipts and expenditures of each gas inspection district.

8. A statement of the illuminating power and purity of gas inspected during the year will be found in Appendix 'F.'

9. The illuminating power, where inspection has been made, has been as follows:—

Places.	Number of Tests made.	Number of times below Standard.	Places.	Number of Tests made.	Number of times below Standard.
Barrie	12		Sarnia	12	
Belleville	34		Stratford	12	1
Berlin	12		St. Catharines	12	
Brantford	12		St. Thomas	14	
Brockville	12		Toronto	104	
Chatham	12		Windsor	13	1
Cobourg	12		Woodstock	12	
Cornwall	12		Montreal	102	
Deseronto	8		Quebec	12	
Dundas	12		Sherbrooke	12	2
Galt	12		Fredericton	55	1
Guelph	12		Moncton	9	
Hamilton	12		St. John, N.B	47	1
Ingersoll	12		Halifax	12	
Kingston	22		Pictou	10	
Listowell	12		Yarmouth	10	
London	19		Charlottetown	12	
Napanee	10		Winnipeg	12	
Ottawa	24		Nanaimo	12	
Owen Sound	12		New Westminster		
Peterborough	12		Vancouver	12	
Port Hope	12		Victoria	11	

The revenue derived from the inspection of electric light was as follows :—

Fees for inspection of meters, &c	$ 10,565 52
Registration of companies	4,797 50
	$ 15,363 02
The expenses of inspection (annual)	4,908 71
	$ 10,454 31
Expended on standard instruments, &c	4,199 26
Leaving a net revenue of	$ 6,255 05

Appendix 'K' contains extracts from a paper on Dominion Electrical Standards read before the Canadian Electrical Association by Mr. O. Higman, Chief Electrical Engineer of the Department, on June 20, 1901.

Since the year 1896–97 the two services of gas and electric light inspection, which are conducted largely by the same staff of officers, have reached that point at which they have ceased to be a burden upon the general taxpayer, as shown below :—

Year.	Gas and Electric Light.	
	Revenue.	Expenditure, Exclusive of cost of Standard Instruments.
	$ cts.	$ cts.
1897–98	28,150 00	23,402 00
1898–99	30,015 25	23,436 30
1899–1900	35,523 50	26,424 48
1900–01	37,536 57	28,247 20

The kindred service of weights and measures inspection, it will be observed, has, the same as last year, earned somewhat over three-fourths of its annual cost, the expenditure as already stated having been $71,280.37, against a revenue of $54,385.56.

Owing to the adoption, by many of the leading nations of the world, of the 'Metric System' of weights and measures, and in order that the people of our country might become conversant therewith, the department has distributed to Boards of Trade and Educational Institutions throughout the Dominion, over one hundred sample sets of Metric Weights and Measures. It has also recently procured standards which will be placed in the hands of Inspectors at the leading Commerical centres, by means of which weights of the Metrical System may, when required, be verified.

These standard sets contain the following weights, viz.:—20, 10, 5, 2, (2). Kilogrammes, I Kilogramme, 500, 200, (2). 100, 50, 20 (2). 10, 5, 2, (2). Grammes, 1 gramme, 5, 2, (2). Decigrammes, I decigramme, 5, 2, (2). Centigrammes, I Centigramme, 5, 2, (2). Milligrammes, I Milligramme.

I have the honour to be, sir,

Your obedient servant,

W. J. GERALD,

Deputy Minister.

Inland Revenue Dept.,

Ottawa, August 10, 1901.

APPENDIX A.

STATEMENT of Weights and Measures Expenditures and Revenues, for the Year ended June 30, 1901.

Divisions.	Inspectors and Assistants.	Expenditures.							Revenues
		Salaries.	Seizure expenses.	Special assistance.	Rent.	Travelling expenses.	Sundries.	Totals.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville...	Johnson, Wm.. Slattery, T..... Irwin, S..... Behan, J. J.... Errett, R. W..	3,399 92	.....	499 92	290 00	1,304 69	451 63	5,946 16	3,755 65
Hamilton...	Freed, A. T.... McDonald, J... Marentette, A.. Fitzgerald, E.W Laidman, R. H. Wheatley, E. A. Jarvis, H.....	5,899 84	. ...	.....	.....	1,101 90	108 40	7,110 14	8,992 26
Ottawa.....	Macdonald, J.A. Elliott, T. H... McFarlane, Jas. Breen, J..... Winsor, J.....	3,862 65	.....	... .	250 00	1,123 20	198 20	5,434 05	5,415 20
Toronto...	Kelly, D. ..... Milligan, R. J.. Wright, R..... Murdoch, J.... Smith, J. C....	4,099 88	... ..	.....	.....	1,652 10	137 17	5,889 15	6,396 08
Windsor....	Hayward, W. J. Coughlin, D.... Thomas, J. S... Hughes, R. A..	3,449 76	1 85	.....	.....	1,300 87	201 96	4,954 44	5,698 10
	Ontario.....	20,712 05	1 85	499 92	540 00	6,482 76	1,097 36	29,333 94	30,257 29

APPENDIX A—*Continued.*

STATEMENT of Weights and Measures Expenditures and Revenues, &c.—*Continued.*

Divisions.	Inspectors and Assistants.	Expenditures.							Revenues
		Salaries.	Seizure expenses.	Special assistance.	Rent.	Travelling expenses.	Sundries.	Totals.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Montreal. . .	Chalus, J. O.... Daoust, J. A... Gervais, S. .... Hébert, J. A. P. Baker, J. S.... Tomlinson, W.. Collins, D. .... Dessert, V..... Fournier, L. A.	8,199 68	... .	....	.....	1,683 30	325 69	10,208 67	12,139 35
Quebec.	Guay, G. N.... LeBel, J. A. W. Kelly, M. J.... Pinhey, H. ... Chabot, F. X.. Guay, A..... Petit, J. B..... Moreau, A.....	5,222 13	.....	62 49	200 00	1,533 67	299 67	7,317 96	2,885 85
Three Rivers	Gravel, A. I. .. Provost, J. J...	1,699 96	. . .	.....	... .	439 60	9 59	2,149 15	1,093 90
	Quebec.	15,121 77	.. .	62 49	200 00	3,656 57	634 95	19,675 78	16,119 10
St. John, N.B.	Wilmot, J. B.. Cowan, E..... Richard, D.... Bernier, J. A..	2,770 96	.....	299 30	.....	417 55	18 14	3,505 95	1,413 49
Cape Breton	Lawrence, G. C..	800 00	.....	... .	37 50	281 40	27 85	1,146 75	384 79
Halifax.....	Frame, A..... Waugh, R. J...	1,599 96	.....	.....	375 00	202 20	155 24	2,332 40	696 40
Pictou	Dustan, W. M. Chisholm, J. J.	1,600 00	....	.....	12 50	149 17	49 48	1,811 15	574 35
	Nova Scotia...	3,999 96	.....	... .. .	425 00	632 77	232 57	5 290 30	1,655 54
Chariottet'n P.E.I.	Davy, E. .... Hughes, H.....	1,500 00	.....	.....	.....	109 44	61 47	1,670 91	327 50
Winnipeg, Man.	Magness, R.... McDonald, A.W Francis, G. M.. Girdlestone, R. J. M..... Ross, H. E... .	2,899 88	.....	1,058 41	108 00	1,311 60	99 86	5,477 75	3,753 03

APPENDIX A—*Concluded.*

STATEMENT of Weights and Measures Expenditures and Revenues, &c.—*Concluded.*

Divisions.	Inspectors and Assistants.	Expenditures. Salaries.	Seizure expenses.	Special assistance.	Rent.	Travelling expenses.	Sundries.	Totals.	Revenues
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Calgary, N.W.T.	Thomas, P. Costello, J. W.	899 92	.....	.....	.....	166 74	.....	1,066 66	464 41
Victoria, B.C.	Findley, H. McAloney, J.A	1,149 84	....	.....	.....	840 70	81 50	2,072 04	395 20

RECAPITULATION.

Ontario	20,712 05	1 85	499 92	540 00	6,482 76	1,097 36	29,333 94	30,257 29
Quebec	15,121 77	....	62 49	200 00	3,656 57	634 95	19,675 78	16,119 10
New Brunswick	2,770 96	.....	299 30	.....	417 55	18 14	3.505 95	1,413 49
Nova Scotia	3,999 96	.....	.....	425 00	632 77	232 57	5,290 30	1,655 54
Prince Edward Island	1,500 00	.....	.....	.....	109 44	61 47	1,670 91	327 50
Manitoba	2,899 88	.....	1,058 41	108 00	1,311 60	99 86	5,477 75	3,753 03
North-west Territories	899 92	.....	.....	.....	166 74	.....	1,066 66	464 41
British Columbia	1,149 84	.....	.....	.....	840 70	81 50	2,072 04	395 20
Commissioner of Standards	733 26	.....	.....	.....	.....	.....	733 26	.....
General Contingencies	.....	.....	.....	.....	.....	1,510 16	1,510 16	.....
Printing	.....	.....	.....	.....	.....	575 23	575 23	.....
Stationery	.....	.....	.....	.....	.....	132 69	132 69	.....
Totals	49,787 64	1 85	1,920 12	1,273 00	13,618 13	4,443 93	71,044 67	54,385 56

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

APPENDIX

RETURN of Weights and Measures Inspected during the Fiscal Year ended June 30, each Division, for each Province,

INSPECTION DIVISIONS.	WEIGHTS.									MEASURES OF CAPACITY.					
	Dominion.			Troy.		Miscellaneous.				Dominion.			Miscellaneous.		
	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Brought for Verification.	Verified.	Rejected.		Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.
Ontario.															
Belleville	3,175	3,175	....	....	....	7	7	....		6,723	6,723	....	2	2	....
Hamilton	10,784	10,755	29	....	....	134	134	....		5,171	5,167	4	13	13	....
Ottawa	2,904	2,817	87	....	....	2	2	....		2,347	2,254	93	2	2	....
Toronto	5,031	5,031	....	14	14	21	21	....		11,640	11,640	....	283	283	....
Windsor	4,690	4,690	....	....	...	...	.....	....		15,941	15,941	....	3	3	....
Totals	26,584	26,468	116	14	14	164	164	....		41,822	41,725	97	303	303	..
Quebec.															
Montreal	14,744	14,168	576	8	8	23	23	....		23,684	23,684	....	44	44	....
Quebec	11,014	10,982	32	....	....	497	495	2		7,102	7,097	5	3	3	....
Three Rivers	1,996	1,996	....	....	....	....	....	....		1,194	1,177	17	....	....	....
Totals	27,754	27,146	608	8	8	520	518	2		31,980	31,958	22	47	47	....
New Brunswick.															
St. John	2,086	2,086	....	....	...	1	1	....		4,967	4,966	1	5	5	....
Nova Scotia.															
Cape Breton.	415	413	2	....	...	.....	.....	....		436	434	2	3	3	....
Halifax	1,218	1,216	2	29	29	.....	.....	....		1,191	1,191	....	30	28	
Pictou	677	677	....	....	....	2	2	....		865	865	....	21	21	....
Totals	2,310	2,306	4	29	29	2	2	....		2,492	2,490	2	54	52	2
Prince Edward Island															
Charlottetown	400	400	....	....	....	.....	.....	....		282	282	....	.. .	....	....
Manitoba.															
Winnipeg	2,419	2,419	. ..	....	....	.....	.....	....		2,369	2,369	....	71	71	....
Calgary	351	351	...	....	....	.....	.....	..		292	292	....	8	8	....
Totals	2,770	2,770	....	....	....	.....	. ...	....		2,661	2,661	....	79	79	....
British Columbia.															
Victoria	377	377	....	16	16	.....	.....	....		123	123	....	...	....	....

B.

1901, showing the Total Number brought for Verification, Verified and Rejected, for and for the whole Dominion.

Measures of Length.			Balances, &c.											
			Equal Armed.			Steelyards.			Platform Scales, Weigh Bridges, &c.			Miscellaneous.		
Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verificatio .	Verified.	Rejected.
266	266	....	576	576	....	143	143	....	2,376	2,376	.....	41	41	....
627	522	105	2,863	2,742	121	2,107	2,041	66	6,792	6,185	607	1,097	1,093	4
561	555	6	532	471	61	34	30	4	1,595	1,474	121	3,383	3,213	170
830	830	....	996	996	....	505	505	...	2,992	2,992	.....	668	668	...
326	326	....	920	906	14	337	337	....	3,115	3,098	17	.....	.....	....
2,610	2,499	111	5,887	5,691	196	3,126	3,056	70	16,870	16,125	745	5,189	5,015	174
2,601	2,594	7	2,704	2,611	93	1,112	1,060	52	6,843	6,644	199	306	296	10
1,057	1,051	6	1,656	1,649	7	82	78	4	1,676	1,662	14	149	149	....
118	108	10	310	307	3	10	10	....	734	732	2	2	2	....
3,776	3,753	23	4,670	4,567	103	1,204	1,148	56	9,253	9,038	215	457	447	10
114	114	....	394	394	....	57	57	....	830	825	5	68	68	....
98	88	10	81	80	1	13	13	...	272	270	2	.....	.....	....
96	96	.. .	227	226	1	35	34	1	464	442	22	8:	80	3
48	48	...	139	139	....	10	10	..	367	367	.... .	1:	12	....
242	232	10	447	445	2	58	57	1	1,103	1,079	24	95	92	3
3	3	....	75	75	....	18	18	....	258	258	.....	6	6	....
248	248	....	473	469	4	150	143	7	2,131	2,084	47	52	51	1
129	129	....	66	66	....	15	15	....	252	252	. ...	7	7	....
377	377	...	539	535	4	165	158	7	2,383	2,336	47	59	58	1
.....	....	....	77	77	....	26	26	....	303	303	.. .	2	2	....

APPENDIX

RETURN of Weights and Measures Inspected during the Fiscal Year ended June 30, each Division, for each Province,

RECAPIT

INSPECTION DIVISIONS.	WEIGHTS.									MEASURES OF CAPACITY.					
	Dominion.			Troy.		Miscellaneous.				Dominion.			Miscellaneous.		
	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Brought for Verification.	Verified.	Rejected.		Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.
Ontario	26,584	26,468	116	14	14	164	164	...		41,822	41,725	97	303	303	....
Quebec	27,754	27,146	608	8	8	520	518	2		31,980	31,958	22	47	47	....
New Brunswick	2,086	2,086	....	....	....	1	1	....		4,967	4,966	1	5	5	...
Nova Scotia	2,310	2,306	4	29	29	2	2	...		2,492	2,490	2	54	52	2
Prince Edward Island	400	400	....	....	....	.....	.....	....		282	282	....	....	....	....
Manitoba	2,770	2,770	....	....	...	.....	.....	....		2,661	2,661	....	79	79	....
British Columbia	377	377	....	16	16	.....	.....	...		123	123	....	....	....	....
Grand totals	62,281	61,553	728	67	67	687	685	2		84,327	84,205	122	488	486	2

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

SESSIONAL PAPER No. 13

B—*Continued.*

1900, showing the Total Nunber brought for Verificatlon, Verified and Rejected, for and for the whole Dominion.

U L A T I O N.

Measures of Length.	Balances, &c.													
	Equal Armed.			Steelyards.			Platform Scales, Weigh Bridges, &c.			Miscellaneous.				
	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.
	2,610	2,499	111	5,887	5,691	196	3,126	3,056	70	16,870	16,125	745	5,189	5,015	174
	3,776	3,753	23	4,670	4,567	103	1,204	1,148	56	9,253	9,038	215	457	447	10
	114	114	...	394	394	....	57	57	....	830	825	5	68	68	....
	242	232	10	447	445	2	58	57	1	1,103	1,079	24	95	92	3
	3	3	....	75	75	....	18	18	....	258	258	.....	6	6	....
	377	377	....	539	535	4	165	158	7	2,383	2,336	47	59	58	1
.....	... ..	....		77	77	....	26	26	.. .	303	303	.....	2	2	....
	7,122	6,978	144	12,089	11,784	305	4,654	4,520	134	31,000	29,964	1,036	5,876	5,688	188

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures of each Fiscal Year ended

INSPECTION DIVISION.	DOMINION Avoir													
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Ontario.														
Belleville	....	....	....	....	11	21	98	235	392	654	587	334	291	268
Hamilton	....	34	....	....	1	3	228	132	1,663	3,011	3,017	637	546	524
Ottawa	60	....	....	...	34	*11, 21	148	157	372	536	473	304	278	205
Toronto	....	....	3	5	8	12	126	212	506	1,033	1,007	524	461	420
Windsor	...	....	. .	....	4	6	117	220	542	993	847	485	447	370
Totals	60	34	3	5	58	74	717	956	3,475	6,227	5,931	2,284	2,023	1,787
Quebec.														
Montreal	416	90	8	†1, 2	‡3, 24	32	744	774	1,295	2,576	2,421	1,750	1,639	1,338
Quebec	....	92	20	54	122	187	855	702	899	1,528	1,518	1,437	1,471	1,141
Three Rivers	....	....	....	....	4	3	147	129	241	343	316	279	278	171
Totals	416	182	28	57	153	222	1,746	1,605	2,435	4,447	4,255	3,466	3,388	2,650
New Brunswick.														
St. John	....	....	....	....	....	5	92	136	196	418	408	224	178	157
Nova Scotia.														
Cape Breton	....	31	18	14	9	2	24	21	51	99	79	39	18	8
Halifax	....	3	2	2	5	8	49	64	120	274	225	152	122	84
Pictou	....	....	....	...	....	7	25	36	68	172	143	57	48	45
Totals	...	34	20	16	14	17	98	121	239	545	447	248	188	137
Prince Edward Island.														
Charlottetown	....	....	....	....	....	....	12	10	42	107	88	42	35	31
Manitoba.														
Winnipeg	....	8	.. .	....	3	4	64	5	401	531	476	202	186	176
Calgary	....	....	1	1	....	1	13	5	50	71	70	29	28	28
Totals	....	8	1	1	3	5	77	10	451	602	546	231	214	204
British Columbia.														
Victoria	....	...	....	....	....	....	2	2	25	79	75	50	48	45

* 8 lbs. † 25 lbs. ‡ 14 lbs.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

C.

Denomination presented for Verification in each Inspection Division, during the June 30, 1901.

Weights.									Lineal Measures.											Miscellaneous Measures.
dupois.																				
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.	Troy Weights.	Miscellaneous Weights.	6 feet.	5 feet.	1 yard.	½ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or Riband.	Total Number.	
210	57	12	3	2	....	3,175	.....	7	....	....	266	..	..	..	..	..	..	....	266	.....
501	382	84	9	12	....	10,784	.....	134	....	....	627	..	..	..	..	..	..	....	627	.....
164	85	37	13	6	....	2,904	.....	.....	....	....	561	..	..	..	..	..	..	....	561	.....
361	203	89	28	33	....	5,031	14	21	....	....	830	..	..	..	..	..	..	....	830	.. ...
343	219	76	15	5	1	4,690	....	.....	....	....	326	..	..	..	..	..	..	....	326	.....
1,579	946	298	68	58	1	26,584	14	162	....	....	2,610	..	..	..	..	..	..	.	2,610	.....
1,001	413	111	54	51	1	14,744	8	23	....	....	2,601	..	..	..	..	..	..	....	2,601	.....
759	190	28	7	3	1	11,014	.....	497	....	....	1,057	..	..	..	..	..	..	....	1,057	.....
69	16	...	...	....	....	1,996	...	...	....	....	118	..	..	..	..	..	..	....	118	.....
1,829	619	139	61	54	2	27,754	8	520	....	....	3,776	..	..	..	..	..	..	....	3,776	.....
121	43	5	1	2	....	2,086	.....	1	....	....	114	..	..	..	..	..	..	....	114	.....
2	....	...	...	....	....	415	.....	....	....	....	98	..	..	..	..	..	..	....	98	.. ..
66	28	6	5	3	....	1,218	29	.....	....	....	96	..	..	..	..	..	..	....	96	.....
40	22	10	2	2	....	677	.....	2	....	....	48	..	..	..	..	..	..	....	48	.....
108	50	16	7	5	....	2,310	29	2	....	....	242	..	..	..	..	..	..	....	242	....
25	7	1	....	....	....	400	.....	... ..	....	....	3	..	..	..	..	..	..	....	3	.....
159	96	62	35	7	4	2,419	.....	.....	...	....	248	..	..	..	..	..	..	....	248	.....
25	15	7	4	3	....	351	.....	.... .	....	...	128	1	..	..	..	..	..	...	129	....
184	111	69	39	10	4	2,770	.....	.....	....	....	376	1	..	..	..	..	..	....	377	.....
38	9	4	...	....	....	377	16	.....	....	....	....	..	.	..	..	..	..	....	.....	.....

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures of each Year ended

Inspection Division.	Dominion Avoir													
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Ontario.														
Belleville	....	....	....	....	11	21	98	235	392	654	587	334	291	268
Hamilton	....	34	....	...	1	3	228	132	1,660	3,006	3,009	632	543	522
Ottawa	60	....	....	....	34	*11, 18	126	139	346	524	469	304	276	205
Toronto	....	....	3	5	8	12	126	212	506	1,033	1,007	524	461	420
Windsor	...	....	.. .	....	4	6	117	220	542	993	847	485	447	370
Totals	60	34	3	5	58	71	695	938	3,446	6,210	5,919	2,279	2,018	1,785
Quebec.														
Montreal	416	90	8	†1, 2	‡3, 24	31	709	733	1,244	2,477	2,328	1,669	1,572	1,277
Quebec	.	92	20	54	121	186	855	698	898	1,524	1,515	1,431	1,466	1,139
Three Rivers	....	....	....	...	4	3	147	129	241	343	316	279	278	171
Totals	416	182	28	57	152	220	1,711	1,560	2,383	4,344	4,159	3,379	3,316	2,587
New Brunswick.														
St. John	....	....	...	....	....	5	92	136	196	418	408	224	178	157
Nova Scotia.														
Cape Breton	....	30	18	14	9	2	23	21	51	99	79	39	18	8
Halifax	....	3	2	2	5	8	49	62	120	274	225	152	122	84
Pictou	...	....	....	...	....	7	25	36	68	172	143	57	48	45
Totals	...	33	20	16	14	17	97	119	239	545	447	248	188	137
Prince Edward Island.														
Charlottetown	....	...	....	....	....	....	12	10	42	107	88	42	35	31
Manitoba.														
Winnipeg	....	8	...	....	3	4	64	5	401	531	476	202	186	176
Calgary	....	..	1	1	....	1	13	5	50	71	70	29	28	28
Totals	....	8	1	1	3	5	77	10	451	602	546	231	214	204
British Columbia.														
Victoria	...	....	....	....	....	...	....	2	2	25	79	75	50	48	45

*8 lbs. †25 lbs. ‡14 lbs.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

SESSIONAL PAPER No. 13

C—*Continued.*

Denomination, Inspected and Verified in each Inspection Division, during the Fiscal June 30, 1901.

Weights.									Lineal Measures.									
dupois.							Troy Weights.	Miscellaneous.	6 feet.	5 feet.	1 yard.	½ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or Riband.	Total Number.	Miscellaneous Measures.
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.														
210	57	12	3	2	....	3,175	.....	7	....	....	266	..	..	..	..	..	..	....	266	....
499	381	84	9	12	...	10,755	.....	134	....	....	522	..	..	..	..	..	..	....	522	.....
164	85	37	13	6	....	2,817	.....	.....	...	....	555	..	..	..	..	..	..	....	555	.....
361	203	89	28	33	....	5,031	14	21	....	....	830	..	..	..	..	..	..	....	830	....
343	219	76	15	5	1	4,690	.....	....	....	...	326	..	..	..	..	..	..	....	326	...
1,577	945	298	68	58	1	26,468	14	162	....	...	2,499	..	..	..	..	..	..	....	2,499	.....
965	401	109	54	51	1	14,168	8	23	....	....	2,594	..	..	..	..	..	..	....	2,594	.....
757	187	28	7	3	1	10,982	.....	495	....	....	1,051	..	..	..	..	..	..	....	1,051	.....
69	16	....	....	....	....	1,996	....	....	...	...	108	..	..	..	..	..	..	....	108	....
1,791	607	137	61	54	2	27,146	8	518	...	...	3,753	..	..	..	..	..	..	...	3,753	.....
121	43	5	1	2	....	2,086	..	1	....	....	114	..	..	..	..	..	..	....	114	.. ..
2	.....	...	.....	....	...	413	.....	.....	....	..	88	..	..	..	..	..	..	....	88	...
66	28	6	5	3	....	1,216	29	..	....	....	96	..	..	..	..	..	..	...	96	.. ..
40	22	10	2	2	....	677	.....	2	....	....	48	..	..	..	..	..	..	....	48	.....
108	50	16	7	5	...	2,306	29	2	....	....	232	..	..	..	..	..	..	....	232	.. ...
25	7	1	....	...	...	400	...	....	....	....	3	..	..	..	..	..	..	....	3	.....
159	96	62	35	7	4	2,419	.....	.....	....	...	248	..	..	..	..	..	..	....	248	.....
25	15	7	4	3	....	351	....		...	....	128	1	..	..	..	..	..	....	129	.....
184	111	69	39	10	4	2,770	.....	.....	...	....	376	1					....		377	.
38	9	4	....	....	....	377	.....	.....	...	....	.....	..	..	..	..	....	....	.....	.....	.... .

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures of Year ended

INSPECTION DIVISION.	DOMINION													
												Avoir		
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Ontario.														
Hamilton									3	5	8	5	3	2
Ottawa						3	22	18	26	12	4		2	
Totals						3	22	18	29	17	12	5	5	2
Quebec.														
Montreal						1	35	41	51	99	93	81	67	61
Quebec					1	1		4	1	4	3	6	5	2
Three Rivers														
Totals					1	2	35	45	52	103	96	87	72	63
Nova Scotia.														
Cape Breton		1					1							
Halifax								2						
Pictou														
Totals		1					1	2						

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

C—*Concluded.*

each Denomination, Rejected in each Inspection Division during the Fiscal June 30, 1900.

Weights.									Lineal Measures.											
dupois.							Troy Weights.	Miscellaneous Weights.												Miscellaneous Measures.
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.			6 feet.	5 feet.	1 yard.	½ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or Riband.	Total Number.	
2	1	....	....	....	....	29	....	....	....	....	105	..	..	..	..	..	..	...	105	.....
....	....	....	....	....	....	87	....	....	....	....	6	..	..	..	..	..	..	....	6	.....
2	1	....	....	....	....	116	....	....	....	....	111	..	..	..	..	..	..	....	111	....
36	9	2	....	....	....	576	....	....	....	....	7	..	..	..	..	..	..	..	7	.....
2	3	....	....	....	....	32	....	....	....	....	6	..	..	..	..	..	..	...	6	.....
....	....	....	....	....	....	....	....	....	....	....	10	..	..	..	..	..	..	....	10	.....
38	12	2	....	....	....	608	....	....	....	....	23	..	..	..	..	..	..	...	23	.....
....	....	....	....	....	....	2	....	....	....	....	10	..	..	..	..	..	..	..	10	.....
....	....	....	....	....	....	2	....	....	....	....	....	..	..	..	..	..	..	..	....	.....
....	....	....	....	....	....	....	....	2	....	....	....	..	..	..	..	..	..	....	....	.....
....	....	....	....	....	....	4	....	2	....	...	10	..	..	..	..	..	..	..	10	.....

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and Division, during the Fiscal

Inspection Divisions.	Measures of Capacity. — Dominion.												
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total Number.	Miscellaneous.	5 lbs. and under.
Ontario.													
Belleville	161	502	787	1,033	1,237	1,591	1,198	207	6	1	6,723	2	158
Hamilton	33	127	195	663	990	1,664	1,193	306	....	....	5,171	13	1,509
Ottawa	.....	15	45	412	645	742	386	92	9	....	2,347	2	153
Toronto	68	142	278	1,490	1,939	3,162	3,768	774	19	....	11,640	283	335
Windsor	1,255	380	327	1,085	1,866	5,414	3,496	2,052	66	....	15,941	3	299
Totals	1,517	1,167	1,632	4,683	6,677	12,573	10,496	3,431	100	1	41,822	303	2,454
Quebec.													
Montreal	1	644	1,119	2,867	4,240	5,739	6,056	2,662	356	....	23,684	44	815
Quebec	1	174	316	1,142	1,659	1,683	1,491	549	87	...	7,102	3	175
Three Rivers	.....	40	22	193	308	300	206	114	11	....	1,194	...	88
Totals	2	858	1,457	4,202	6,207	7,722	7,753	3,325	454	....	31,980	47	1,078
New Brunswick.													
St. John	....	130	116	579	1,378	1,437	1,030	175	122	....	4,967	5	70
Nova Scotia.													
Cape Breton	2	6	1	84	159	140	39	4	1	....	436	3	27
Halifax	.....	35	33	190	298	292	203	98	42	...	1,191	30	53
Pictou	.....	20	23	98	260	274	125	63	2	....	865	21	44
Totals	2	61	57	372	717	706	367	165	45	...	2,492	54	124
P. E. Island.													
Charlottetown	....	.....	.....	13	33	138	89	9	....	...	282	...	18
Manitoba.													
Winnipeg	17	5	11	503	582	647	568	34	1	1	2,369	71	134
Calgary	5	.....	1	55	91	85	48	7	....	....	292	8	27
Totals	22	5	12	558	673	732	616	41	1	1	2,661	79	161
British Columbia.													
Victoria	...	.....	....	7	12	37	67	.....	....	....	123	....	30

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

D.

Weighing Machines of each Denomination Presented for Verification in each Inspection Year ended June 30, 1901.

BALANCES.

With Equal Arms.			Steel yards with Divided Arms.				Weigh Bridges or Platform Scales.							
5 lbs. to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and upwards.	500 lbs. and under.	500 lbs. to 1,000 lbs.	1,000 lbs. to 2,000 lbs.	2,000 lbs. and upwards.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	Totals.	Miscellaneous.
418	.....	.....	138	1	3	1	774	184	785	221	121	291	3,095	41
1,354	.. ..	. ...	2,074	30	3	.....	3,530	127	2,525	295	72	243	11,762	1,097
379	.....	.. .	28	6	.....	.....	690	189	531	55	57	73	2,161	3,383
661	.....	. ..	464	28	10	3	952	122	1,210	272	65	371	4,493	668
621	.....	.....	327	5	5	.. ...	1,208	125	1,198	225	68	291	4,373	.....
3,433	. ...	.. ...	3,031	70	21	4	7,154	747	6,249	1,068	383	1,269	25,883	5,189
1,881	.....	8	1,063	15	7	27	2,381	1,235	2,496	216	230	285	10,659	306
1,358	37	86	78	3	1	.. ..	443	657	445	59	35	37	3,414	497
222	.....	... .	10	.....	.....	.....	227	293	199	1	7	7	1,054	2
3,461	37	94	1,151	18	8	27	3,051	2,185	3,140	276	272	329	15,127	805
324	. ...	.....	56	.....	1	.... .	377	170	215	12	17	39	1,281	68
47	3	4	11	2	....	.. .	155	52	33	3	20	9	366	.....
173	1	.....	35	.....	. ...	.....	228	61	102	16	6	51	726	83
95	.....	.....	10	....	....	.....	157	70	68	20	17	35	516	12
215	4	4	56	2	.....	.....	540	183	203	39	43	93	1,608	95
57	....	... .	18	.....	. .	.....	77	59	97	2	7	16	351	6
339	.....	.....	147	3	.....	.....	665	45	563	325	345	188	2,754	52
39	.....	....	12	1	1	1	113	7	98	3	4	27	333	7
378	.....	.. .	159	4	1	1	778	52	661	328	349	215	3,087	59
47	.....	. ...	20	2	4	.....	154	17	89	7	7	29	406	2

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and Division, during the Fiscal

MEASURES OF CAPACITY.

Dominion.

INSPECTION DIVISIONS.	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	¼ Gill.	Total Number.	Miscellaneous.	5 lbs. and under.
Ontario.													
Belleville	161	502	787	1,033	1,237	1,591	1,198	207	6	1	6,723	2	158
Hamilton	33	127	194	663	988	1,664	1,192	306	....	....	5,167	13	1,500
Ottawa	.....	10	32	377	619	732	383	92	9	....	2,254	2	127
Toronto	68	142	278	1,490	1,939	3,162	3,768	774	19	....	11,640	283	335
Windsor	1,255	380	327	1,085	1,866	5,414	3,496	2,052	66	...	15,941	3	292
Totals	1,517	1,161	1,618	4,648	6,649	12,163	10,037	3,431	100	1	41,725	303	2,412
Quebec.													
Montreal	1	644	1,119	2,867	4,240	5,739	6,056	2,662	356	...	23,684	44	807
Quebec	1	174	315	1,140	1,659	1,682	1,490	549	87	...	7,097	3	173
Three Rivers	.....	39	20	191	307	298	203	108	11	...	1,177	..	88
Totals	2	857	1,454	4,198	6,206	7,720	7,749	3,319	454	...	31,958	47	1,068
New Brunswick.													
St. John	....	130	116	579	1,377	1,437	1,030	175	122	....	4,966	5	70
Nova Scotia.													
Cap Breton	2	6	1	84	159	138	39	4	1	....	434	3	27
Halifax	35	33	190	298	292	203	98	42	....	....	1,191	28	53
Pictou	....	20	23	98	260	274	125	63	2	..	865	21	44
Totals	37	59	214	480	711	615	262	109	3	....	2,490	52	124
P. E. Island.													
Charlottetown	.....	.....	....	13	33	138	89	9	...	...	282	....	18
Manitoba.													
Winnipeg	17	5	11	503	582	647	568	34	1	1	2,369	71	133
Calgary	5	..	1	55	91	85	48	7	....	....	292	8	27
Totals	22	5	12	558	673	732	616	41	1	1	2,661	79	160
British Columbia.													
Victoria	.....	...	....	7	12	37	67	.....	....	..	123	...	30

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

SESSIONAL PAPER No. 13

D—*Continued.*

Weighing Machines of each Denomination Presented for Verification, in each Inspection Year ended June 30, 1901.

BALANCES.

With Equal Arms.			Steel yards with Divided Arms.				Weigh Bridges or Platform Scales.							
5 lbs. to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and upwards.	500 lbs. and under.	500 lbs. to 1,000 lbs.	1,000 lbs. to 2,000 lbs.	2,000 lbs. and upwards.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	Total.	Miscellaneous.
418	.....	.....	138	1	3	1	774	184	785	221	121	291	3,095	41
1,242	.....	.....	2,011	28	2	.....	3,348	97	2,267	228	63	182	10,968	1,093
344	....	.....	24	6	.....	.....	650	167	500	47	47	63	1,975	3,213
661	....	.....	464	28	10	3	952	122	1,210	272	65	371	4,493	668
614	.....	.....	327	5	5	.....	1,203	123	1,189	225	68	290	4,341	.....
3,279	....	.....	2,964	68	20	4	6,927	693	5,951	993	364	1,197	24,872	5,015
1,796	8	.....	1,011	15	7	27	2,349	1,194	2,432	209	195	265	10,315	296
1,353	37	86	76	1	1	.....	440	656	439	56	34	37	3,389	495
219	.....	.....	10	.....	.....	.....	227	292	198	1	7	7	1,049	2
3,368	45	86	1,097	16	8	27	3,016	2,142	3,069	266	236	309	14,753	793
324	.....	.....	56	.....	1	.....	377	169	212	12	17	38	1,276	68
46	3	4	11	2	.....	.....	154	52	33	3	20	9	363	....
172	1	.....	34	.....	.....	.....	223	58	93	13	5	50	702	80
95	.....	.....	10	.....	.....	.....	157	70	68	20	17	35	516	12
313	4	4	55	2	.....	.....	534	180	194	36	42	94	1,581	92
57	.....	.....	18	.....	.....	.....	77	59	97	2	7	16	351	6
136	.....	.....	140	3	.....	.....	652	44	548	322	338	180	2,696	51
39	.....	.....	12	1	1	1	113	7	98	3	4	27	333	7
175	.....	.....	152	4	1	1	765	51	646	325	342	207	3,029	58
47	.....	.....	20	2	4	.....	154	17	89	7	7	29	406	2

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and during the Fiscal Year

INSPECTION DIVISIONS.	MEASURES OF CAPACITY.												
	Dominion.												
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total Number.	Miscellaneous.	5 lbs. and under.
Ontario.													
Belleville													
Hamilton			1		2		1				4		9
Ottawa		6	13	35	26	10	3				93		26
Toronto													
Windsor													7
Totals		6	14	35	28	10	4				97		42
Quebec.													
Montreal													8
Quebec			1	2		1	1				5		2
Three Rivers		1	2	2	1	2	3	6			17		
Totals		1	3	4	1	3	4	6			22		10
New Brunswick.													
St. John					1						1		
Nova Scotia.													
Cape Breton						2					2		
Halifax												2	
Pictou													
Totals						2					2	2	
P. E. Island.													
Charlottetown													
Manitoba.													
Winnipeg													1
Calgary													
Totals													1
British Columbia.													
Victoria													

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

SESSIONAL PAPER No. 13

D—*Concluded.*

Weighing Machines of each Denomination Rejected, in each Inspection Division, ended June 30, 1901.

BALANCES.

With Equal Arms.			Steel yards with Divided Arms.				Weigh Bridges or Platform Scales.							
5 lbs. to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and upwards.	500 lbs. and under.	500 lbs. to 1,000 lbs.	1,000 lbs. to 2,000 lbs.	2,000 lbs. and upwards.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 2,000 lbs	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	Totals.	Miscellaneous.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
112	.....	.....	63	2	1	.....	182	30	258	67	9	61	794	4
35	.....	.....	4	.....	.....	.....	40	22	31	8	10	10	186	170
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7	.....	.....	.....	.....	.....	.....	5	2	9	.....	.....	1	31	.....
154	.....	.....	67	2	1	.....	227	54	298	75	19	72	1,011	174
85	.....	.....	52	.....	.....	.....	32	41	64	7	35	20	344	10
5	.....	.....	2	2	.....	.....	3	1	6	3	1	.....	25	2
3	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	5	.....
93	.....	.....	54	2	.....	.....	35	43	71	10	36	20	374	12
.....	.....	.....	.....	.....	.....	.....	.....	1	3	.....	.....	1	5	.....
1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	3	.....
1	.....	.....	1	.....	.....	.....	5	3	9	3	1	1	24	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	.....	.....	1	.....	.....	.....	7	3	9	3	1	1	27	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	.....	.....	7	.....	.....	.....	13	1	15	3	7	8	58	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	.....	.....	7	.....	.....	.....	13	1	15	3	7	8	58	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

W. J. GERALD,
Deputy Minister.

APPENDIX E.

STATEMENT of Gas Inspection Expenditures and Revenues for the Year ended June, 30, 1901.

Districts.	Inspectors and Officers.	Expenditures.						Revenues.
		Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Totals.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Barrie	Shanacy, M	100 00				0 53	100 53	58 00
Belleville	Johnson, Wm. McRae, W. D.	349 96		164 75	35 95	62 16	612 82	132 00
Berlin	Broadfoot, S	183 29			31 50	13 78	228 57	196 50
Brockville			99 96			15 50	115 46	292 00
Cobourg	Bickle, J. W	100 00			39 00	36 80	175 80	130 75
Cornwall	Mulhern, M. M.	100 00				42 30	142 30	40 25
Guelph	Broadfoot, S	200 00				12 91	212 91	263 00
Hamilton	McPhie, D. Dennis, W. A. McPhie, W. H.	2,496 73		36 00	114 85	70 52	2,718 10	1,647 25
Kingston	Behan, J. J.	400 00		22 50		53 88	476 38	323 00
Listowel	Male, T	100 00		60 00		20 22	180 22	80 00
London	Nash, A. F	1,000 00	76 00	95 00	429 80	24 10	1,624 90	2,596 00
Napanee	Johnson, Wm., acting.							45 75
Ottawa	Roche, H. G	1,000 00	540 00	300 00		73 40	1,913 40	607 75
Owen Sound	Graham, W. J	200 00		125 00		1 50	326 50	61 25
Peterborough	Rudkins, Wm. Rork, Thos	152 08			2 00	6 00	160 08	77 00
Sarnia	Hicks, W. H			20 00	0 25	0 75	21 00	206 25
Stratford	Rennie, Geo	200 00			9 00	7 00	216 00	73 25
Toronto	Johnstone, J. K. Pape, Jas.	2,599 96				45 25	2,645 21	7,360 25
	Ontario	9,182 02	715 96	823 25	662 35	486 60	11,870 18	14,190 25
Montreal	Aubin, A. O'Flaherty, M. J.	2,199 84	370 00	240 00	92 25	118 80	3,020 89	5,523 05
Quebec	LeVasseur, N. Moreau, A.	1,300 00		150 00		3 90	1,453 90	358 00
Sherbrooke	Simpson, A. F	100 00					100 00	36 00
St. Hyacinthe	Benoit, L. V	36 08					36 08	
	Quebec	3,635 92	370 00	390 00	92 25	122 70	4,610 87	5,917 05
Fredericton	Fowler, Jas. D	200 00					200 00	60 25
St. John	Wilson, J. E	1,000 00			68 52	7 38	1,075 90	361 75
	New Brunswick	1,200 00			68 52	7 38	1,275 90	422 00
Halifax	Miller, A. Munro, H. D. Ritchie, A. T.	1,799 92		389 70	432 14	111 35	2,733 11	518 75
Charlottetown	Davy, E	11 66				28 75	40 41	88 00
Winnipeg	Magness, R	200 00		81 00	7 50	37 02	325 52	476 00
Nanaimo	McAloney, J. A.	100 00					100 00	108 25
New Westminster	Wolfenden, Wm.	100 00					100 00	
Vancouver	Miller, J. E	300 00			28 90	83 23	412 13	267 50
Victoria	Jones, R	200 00				7 55	207 55	185 75
	British Columbia	700 00			28 90	90 78	819 68	561 50

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APPENDIX E—*Concluded.*

STATEMENT of Gas Inspection Expenditures and Revenues, &c.—*Concluded.*

RECAPITULATION.

Provinces.	Expenditures.						Revenues.
	Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Totals.	
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario	9,182 02	715 96	823 25	662 35	486 60	11,870 18	14,190 25
Quebec	3,635 92	370 00	390 00	92 25	122 70	4,610 87	5,917 05
New Brunswick	1,200 00			68 52	7 38	1,275 90	422 00
Nova Scotia	1,799 92		389 70	432 14	111 35	2,733 11	518 75
Prince Edward Island	11 66				28 75	40 41	88 00
Manitoba	200 00		81 00	7 50	37 02	325 52	476 00
British Columbia	700 00			28 90	90 78	819 68	561 50
General				33 75	646 62	680 37	
General expenses					384 06	384 06	
Printing					208 49	208 49	
Stationary					106 72	106 72	
Totals	16,729 52	1,085 96	1,683 95	1,325 41	2,230 47	23,055 31	22,173 55

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

APPENDIX

RETURN of the Illuminating Power and Purity of Gas

INSPECTION OFFICES.	ILLUMINATING POWER.						SULPHUR PER 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Barrie—									
July			19·70		0	1			
August			20·01		0	1			
September			19·45		0	1			
October			20 53		0	1			
November			18·30		0	1			
December			20·00		0	1			
January			20 09		0	1			
February			19·41		0	1			
March			20·22		0	1			
April			21·05		0	1			
May			21·55		0	1			
June			19·34		0	1			
					0	12			
Belleville—									
July	20·47	19·68	20·08		0	2			
August	22·49	21·65	22·07		0	2			
September	21·32	19·90	20·57		0	3			
October	21·25	20·58	20 86		0	3			
November	22·94	18·90	20·47		0	2			
December	20·92	19·39	20·17		0	3			
January	20·92	17·19	18·27		0	4			
February	20·24	19·06	19·61		0	3			
March	20·40	17·00	18.45		0	4			
April	21·58	17·20	19·48		0	4			
May	21·94	16·39	19·16		0	2			
June	21·90	18·19	19·99		0	2			
					0	34			
Berlin—									
July			17·58		0	1			
August			17·76		0	1			
September			17·12		0	1			
October			17·62		0	1			
November			16·19		0	1			
December			17·49		0	1			
January			22 50		0	1			
February			21·46		0	1			
March			22·88		0	1			
April			22·47		0	1			
May			20·00		0	1			
June			21·72		0	1			
					0	12			

F.

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
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									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Brantford—									
July			20·06		0	1			
August			20·40		0	1			
September			19·73		0	1			
October			20·16		0	1			
November			19·01		0	1			
December			18·50		0	1			
January			19·28		0	1			
February			19·92		0	1			
March			18·79		0	1			
April			19·95		0	1			
May			20·18		0	1			
June			18·66		0	1			
					0	12			
Brockville—									
July			20·00		0	1			
August			20·00		0	1			
September			19·86		0	1			
October			20·06		0	1			
November			20·88		0	1			
December			19·71		0	1			
January			19·00		0	1			
February			17 70		0	1			
March			18·84		0	1			
April			19·77		0	1			
May			20·00		0	1			
June			19·86		0	1			
					0	12			
Chatham—									
July			18·14		0	1			
August			17·54		0	1			
September			16·53		0	1			
October			17·78		0	1			
November			16·67		0	1			
December			16 05		0	1			
January			16·01		0	1			
February			16·22		0	1			
March			17·00		0	1			
April			16·02		0	1			
May			19·06		0	1			
June			18·45		0	1			
					0	12			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
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									1	0	1	
									1	0	1	
									12	0	12	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Cobourg—									
July			18·80		0	1			
August			19·97		0	1			
September			19·08		0	1			
October			18·16		0	1			
November			19·01		0	1			
December			19·11		0	1			
January			17·35		0	1			
February			17·01		0	1			
March			18·59		0	1			
April			17·78		0	1			
May			17·76		0	1			
June			17·65		0	1			
					0	12			
Cornwall—									
July			18·10		0	1			
August			18·10		0	1			
September			18·10		0	1			
October			18·40		0	1			
November			18.10		0	1			
December			18·00		0	1			
January			18·10		0	1			
February			18·30		0	1			
March			17·80		0	1			
April			17·80		0	1			
May			18·10		0	1			
June			18·00		0	1			
					0	12			
Deseronto—									
July			21·30		0	1			
August			20·90		0	1			
September			17·10		0	1			
October			22·30		0	1			
November			18·50		0	1			
December									
January									
February			22·80		0	1			
March									
April			24·90		0	1			
May									
June			23·33		0	1			
					0	8			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									2	0	2	
									2	0	2	
									1	1	2	
									2	0	2	
									2	0	2	
									1	1	2	
									2	0	2	
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									2	1	3	
									2	0	2	
									22	3	25	
									1	0	1	
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									1	0	1	
									6	2	8	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Dundas—									
July				20·04	0	1			
August				19·28	0	1			
September				18·84	0	1			
October				19·80	0	1			
November				19·66	0	1			
December,				19·68	0	1			
January				19·18	0	1			
February				19·34	0	1			
March				19·01	0	1			
April				19·89	0	1			
May				19·34	0	1			
June				19·13	0	1			
					0	12			
Galt—									
July				20·22	0	1			
August				19·00	0	1			
September				18·00	0	1			
October				22·02	0	1			
November				20·20	0	1			
December				18·10	0	1			
January				19·82	0	1			
February				18·64	0	1			
March				18·02	0	1			
April				19·02	0	1			
May				20·00	0	1			
June				21·07	0	1			
					0	12			
Guelph—									
July				18·12	0	1			
August				17·02	0	1			
September				17·54	0	1			
October				17·00	0	1			
November				17·40	0	1			
December				16·07	0	1			
January				16·87	0	1			
February				19·38	0	1			
March				18·71	0	1			
April				18·16	0	1			
May				18·33	0	1			
June				18·72	0	1			
					0	12			

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
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									1	0	1	
									14	1	15	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Surplus per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below standard.	No. of Tests.	Highest	Lowest	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Hamilton—									
July			17·79		0	1			
August			18·06		0	1			
September			17·73		0	1			
October			17·85		0	1			
November			18·20		0	1			
December			18·00		0	1			
January			18·15		0	1			
February			18·50		0	1			
March			18·00		0	1			
April			17·74		0	1			
May			17·93		0	1			
June			18·01		0	1			
					0	12			
Ingersoll—									
July			16·02		0	1			
August			20·41		0	1			
September			16·51		0	1			
October			21·85		0	1			
November			19·22		0	1			
December			19·05		0	1			
January			17·77		0	1			
February			16·02		0	1			
March			18·28		0	1			
April			17·15		0	1			
May			22·72		0	1			
June			23·44		0	1			
					0	12			
Kingston—									
July			21·22		0	1			
August	21·90	21·22	21·56		0	2			
September	21·20	20·90	21·05		0	2			
October			21·60		0	1			
November	22·13	20·52	21·32		0	2			
December	22·48	22·10	22·29		0	2			
January	22·50	22·40	22·45		0	2			
February	22·72	22·24	22·48		0	2			
March			22·60		0	1			
April	22·66	22·54	22·60		0	2			
May	22·10	21·70	21·90		0	2			
June	22·10	21·40	21·75		0	2			
					0	21			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
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									2	0	2	
									2	0	2	
									1	0	1	
									2	0	2	
									2	0	2	
									2	0	2	
									21	0	21	

APPENDIX

RETURN of the Illuminating Power and Purity of Gas

INSPECTION OFFICES.	ILLUMINATING POWER.						SURPLUS PER 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below standard.	No. of Tests.	Highest	Lowest	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Listowel—									
July			20·60		0	1			
August			21·95		0	1			
September			22·16		0	1			
October			22·55		0	1			
November			21·55		0	1			
December			22·55		0	1			
January			18 45		0	1			
February			17·69		0	1			
March			20·49		0	1			
April			21·78		0	1			
May			22·63		0	1			
June			21·65		0	1			
					0	12			
London—									
July			21·06		0	1			
August			18·40		0	1			
September			19·19		0	1			
October	18·48	16·25	17·36		0	2			
November			18·43		0	1			
December	18·46	17·97	18·21		0	2			
January	17·51	16·75	17·13		0	2			
February			18·09		0	1			
March	16·89	16·78	16·83		0	2			
April	17·46	16·76	17·11		0	2			
May	18·99	17·30	18·14		0	2			
June	17·34	16·08	16·66		0	2			
					0	19			
Napanee—									
July			22·81		0	1			
August									
September			22·06		0	1			
October									
November			24·31		0	1			
December			20·94		0	1			
January			21·62		0	1			
February			21·62		0	1			
March			20·26		0	1			
April			22·42		0	1			
May			23·27		0	1			
June			21·94		0	1			
					0	10			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									24	0	24	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									10	0	10	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of time below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Ottawa—									
July	21·90	21·86	21·88		0	2	15·08	14·19	14·63
August	22·09	21·70	21·89		0	2	14·88	14·88	14·73
September	21·55	21·54	21·54		0	2	15·48	15·48	15·28
October	21·56	21·52	21·54		0	2	15·37	15·37	15·11
November	21·37	20·56	21·46		0	2	14·92	14·41	14·66
December	22·07	21·59	21·83		0	2	14·99	14·73	14·86
January	22·33	21·55	21·94		0	2	17·63	14·97	16·30
February	22·01	21·90	21·95		0	2	15·29	14·70	14·99
March	22·93	21·45	22·19		0	2	15·19	14·41	14·79
April	21·63	21·46	21·54		0	2	15·29	14·64	14·96
May	21·58	21·41	21·49		0	2	14·92	14·54	14·73
June	21·75	21·61	21·68		0	2	14·75	14·47	14·61
					0	24			
Owen Sound—									
July			21·76		0	1			
August			21·60		0	1			
September			21·60		0	1			
October			22·10		0	1			
November			22·13		0	1			
December			22·40		0	1			
January			22·70		0	1			
February			21·07		0	1			
March			22·54		0	1			
April			22·07		0	1			
May			22·00		0	1			
June			22·12		0	1			
					0	12			
Peterborough—									
July			21·77		0	1			
August			24·97		0	1			
September			21·00		0	1			
October			19·31		0	1			
November			24·00		0	1			
December			18·87		0	1			
January			17·19		0	1			
February									
March			25·00		0	1			
April	20·00	18·34	19·17		0	2			
May			23·00		0	1			
June			21·00		0	1			
					0	12			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
	0	2							2	0	2	
	0	2							1	0	1	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	2							2	0	2	
	0	24							23	0	23	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									2	0	2	
									1	0	1	
									12	0	12	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Port Hope—									
July			18·28		0	1			
August			19·52		0	1			
September			19·11		0	1			
October			17·49		0	1			
November			18·01		0	1			
December			17·25		0	1			
January			17·73		0	1			
February			19·67		5	1			
March			17·94		0	1			
April			17·66		0	1			
May			19·24		0	1			
June			18·29		0	1			
					0	12			
Sarnia—									
July			19·80		0	1			
August			21·04		0	1			
September			19·14		0	1			
October			21·32		0	1			
November			19·76		0	1			
December			20·36		0	1			
January			19·38		0	1			
February			19·38		0	1			
March			19·92		0	1			
April			19·26		0	1			
May			20·56		0	1			
June			18 40		0	1			
					0	12			
Stratford—									
July			16·61		0	1			
August			16·22		0	1			
September			16·41		0	1			
October			16·76		0	1			
November			16·76		0	1			
December			16·95		0	1			
January			16·70		0	1			
February			15·06		1	1			
March			15 86		1	1			
April			17·17		0	1			
May			16·61		0	1			
June			16·79		0	1			
					2	12			

F —*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	Remarks.
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									2	0	2	
									24	0	24	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power. Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Sulphur per 100 Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
St. Catharines—									
July			19·60		0	1			
August			19 44		0	1			
September			19·28		1	1			
October			19·50		0	1			
November			20·30		0	1			
December			19·98		0	1			
January			19.50		0	1			
February			20·07		0	1			
March			19·84		0	1			
April			20·07		0	1			
May			20·08		0	1			
June			18·28		0	1			
					1	12			
St. Thomas—									
July			16·52		0	1			
August			16 29		0	1			
September	16·48	14·35	15·65		1	3			
October			16·56		0	1			
November			16·04		0	1			
December			16·00		0	1			
January			17·19		0	1			
February			16·11		0	1			
March			16·10		0	1			
April			16·03		0	1			
May			17·95		0	1			
June			17·08		0	1			
					1	14			
Toronto—									
July	20·79	20·12	20·52		0	8	11·12	9·87	10·54
August	21·04	19·44	20·35		0	9	10·07	8·61	9·34
September	21·24	19·91	20·44		0	9	14·58	8·96	11·77
October	21·56	20·13	20·80		0	9	15·58	14·08	14·83
November	21·68	20·56	20·91		0	8	11·21	9·81	10·51
December	21·76	20·32	20·86		0	9	15·67	13·06	14·36
January	20·86	19·67	20·21		0	9	12·91	8·70	10·80
February	20·69	18·75	19·58		0	8	11·16	9 89	10·52
March	21·12	18·70	19·60		0	9	16·99	16·11	16·55
April	20·32	18·67	19 36		0	9	15·89	14·19	15·89
May	19·91	18·77	19·47		0	8	11·35	9·15	10·25
June	20·61	19·40	19·84		0	9	17·64	13·85	15·74
					0	104			

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									3	0	3	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									14	0	14	
	0	2	0·05	0·03	0·04		0	2	8	0	8	
	0	2	0·31	0·26	0·28		0	2	9	0	9	
	0	2	0·10	0·00	0·05		0	2	9	0	9	
	0	2	1·74	0·51	1·12		0	2	9	0	9	
	0	2	0·76	0·04	0·40		0	2	8	0	8	
	0	2	0·95	0·62	0·78		0	2	9	0	9	
	0	2	0·84	0·47	0·65		0	2	9	0	9	
	0	2	0·90	0·50	0·70		0	2	8	0	8	
	0	2	0·52	0·30	0·41		0	2	9	0	9	
	0	2	0·04	0·00	0·02		0	2	9	0	9	
	0	2	0·06	0·04	0·05		0	2	8	0	8	
	0	2	1·31	0·90	1·10		0	2	9	0	9	
	0	24					0	24	104	0	104	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Windsor—									
July			17·72		0	1			
August			16·58		0	1			
September			17·99		0	1			
October	17·97	16·40	16·68		0	2			
November			16·77		0	1			
December			13·60		1	1			
January			18·32		0	1			
February			18·60		0	1			
March			17·12		0	1			
April			18·80		0	1			
May			17·61		0	1			
June			17·84		0	1			
					1	13			
Woodstock—									
July			21·07		0	1			
August			19·82		0	1			
September			26·58		0	1			
October			17·44		0	1			
November			22·92		0	1			
December			22·87		0	1			
January			19·62		0	1			
February			26·37		0	1			
March			24·41		0	1			
April			25·12		0	1			
May			23·81		0	1			
June			22·95		0	1			
					0	12			
Montreal—									
July	21·16	18·14	19·52		0	8	26·43	20·79	23·61
August	20·12	19·38	19·97		0	9	28·63	28·63	22·64
September	21·51	18·11	19·61		0	9	30·56	30.56	29·79
October	21·08	18·33	19·67		0	9	27·41	27·41	23·80
November	19·48	17·24	18·56		0	8	23·70	22·86	23·28
December	20·74	17·46	19 08		0	9	21·46	19·77	20·61
January	18·48	16·80	17·75		0	9	11·40	10·31	10·85
February	18·84	17·03	17·65		0	7	14·49	12 14	13·31
March	19·01	16·68	17 97		0	9	17·39	14·41	15·90
April	18·97	16·75	17·78		0	9	33·83	32·93	33·28
May	21·85	19·02	20·06		0	8	24·83	17·02	20·92
June	21·14	18·19	19 55		0	8	29·49	18·16	23·82
					0	102			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard. 35 Grains.	No. of times in excess of allowance.	No. of Tests.	Highest Grains.	Lowest. Grains.	Average Grains.	Standard. 4 Grains.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	2	0	2	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
									13	0	13	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
...	...	...	...	...	...	...	...	..	1	0	1	
									12	0	12	
...	0	2	2·17	1·80	1·98	...	0	2	11	0	11	
...	0	2	1·01	0·00	0·50	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	11	0	11	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	10	0	10	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	12	0	12	
...	0	2	...	...	0·00	...	0	2	11	0	11	
...	0	2	...	...	0·00	...	0	2	11	0	11	
	0	24					0	24	138	0	138	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Quebec—									
July			18·24		0	1	17·53	17·02	17·27
August			17·95		0	1	20·70	16·91	18·80
September			18 16		0	1	20 34	20·11	20·22
October			17·66		0	1	18·09	14·18	16·13
November			18 52		0	1	21·25	20·64	20·94
December			18·17		0	1	22·24	20·07	21·15
January			17·90		0	1	20·14	16·97	18·55
February			17·92		0	1	20·86	20·23	20·54
March			18 00		0	1	19·73	18·48	19·10
April			18·56		0	1	21·28	19·96	20·62
May			17·68		0	1	20·22	14·36	17·29
June			17·30		0	1	15·32	12·44	13·88
					0	12			
Sherbrooke—									
July				16·68	0	1			
August				17·06	0	1			
September				17·24	0	1			
October				17·55	0	1			
November				17·29	0	1			
December				16·33	0	1			
January				16·33	0	1			
February				15·22	1	1			
March				13·82	1	1			
April				16·19	0	1			
May				16·51	0	1			
June				17·24	0	1			
					2	12			
Fredericton—									
July	18·07	17·03	17·57		0	5			
August	18·31	17·42	17·95		0	5			
September	18·33	17·48	17·74		0	4			
October	18·44	17·35	17·81		0	4			
November	18·49	17·88	18·13		0	5			
December	18·42	16·48	17·69		0	5			
January	18·90	17·09	18·19		0	5			
February	17·93	16·31	16·99		0	5			
March	17·18	16·40	16·66		0	5			
April	16·67	15·99	16·29		1	3			
May	17·25	16·29	16·74		0	4			
June	16·86	16·31	16·64		0	5			
					1	55			

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard. 35 Grains.	No. of times in excess of allowance.	No. of Tests.	Highest Grains.	Lowest. Grains.	Average Grains.	Standard. 4 Grains.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
......	0	2	......	......	......	......	0	2	2	0	2	
	0	24					0	24	24	0	24	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
......	......	......	......	......	......	......	......	..	1	0	1	
									12	0	12	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	4	0	4	
......	......	......	......	......	......	......	......	..	4	0	4	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	5	0	5	
......	......	......	......	......	......	......	......	..	3	0	3	
......	......	......	......	......	......	......	......	..	4	0	4	
......	......	......	......	......	......	......	......	..	5	0	5	
									55	0	55	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Moncton—									
July									
August									
September									
October			17·97		0	1			
November			17·94		0	1			
December			16·97		0	1			
January			16·77		0	1			
February			16·00		0	1			
March			18·57		0	1			
April			16·18		0	1			
May			17·75		0	1			
June			17·79		0	1			
					0	9			
St. John—									
July									
August									
September									
October	16·50	16·40	16·45		0	2			23·18
November	16·47	15·86	16·19		1	5	29·03	15·42	24·03
December	18·56	16·40	17·09		0	6	20·06	17·37	18·98
January	18·72	16·75	17·70		0	6	24·16	23·01	23·58
February	17·67	16·48	17·18		0	6	19·33	18·09	18·71
March	17·39	16·25	16·81		0	5	27·38	20·15	23·76
April	17·38	16·47	16·97		0	6	25·11	16·64	20·87
May	17·60	17·05	17·27		0	6	27·76	22·70	25·23
June	16·81	16·39	16·61		0	5	20·67	13·85	17·26
					1	47			
Halifax—									
July			17·51		0	1			13·73
August			17·05		0	1			
September			17·64		0	1			
October			17·80		0	1			11·90
November			16·20		0	1			10·69
December			17·40		0	1			10·77
January			16·88		0	1			11 61
February			16·61		0	1			10·11
March			17·22		0	1			11·08
April			16·35		0	1			9·88
May			17·37		0	1			8·90
June			17·49		0	1			11·61
					0	12			

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	Remarks.
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									9	0	9	
	0	1			3·73		0	1	3	0	3	
	0	4	3·14	1·43	2·14		0	4	5	0	5	
	0	2	1·63	0·56	1·09		0	2	6	0	6	
	0	2	1·04	1·01	1·02		0	2	6	0	6	
	0	2	0·56	0·00	0·28		0	2	6	0	6	
	0	2	0·51	0·00	0·25		0	2	5	0	5	
	0	2	1·51	1·27	1·39		0	2	6	0	6	
	0	2	0·77	0·51	0·64		0	2	6	0	6	
	0	2	2·04	1·26	1·65		0	2	5	0	5	
	0	19					0	19	48	0	48	
	0	1					0	1	1	0	1	
									1	0	1	
									1	0	1	
	0	1							1	0	1	
	0	1							1	0	1	
	0	1					0	1	1	0	1	
	0	1					0	1	1	0	1	
	0	1					0	1	1	0	1	
	0	1					0	1	1	0	1	
	0	1					0	1	1	0	1	
	0	1					0	1	1	0	1	
	0	10					0	9	12	0	12	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Pictou—									
July			18·81		0	1			
August			18·20		0	1			
September			18·00		0	1			
October									
November			18·63		0	1			
December			18·63		0	1			
January			18·08		0	1			
February			18·09		0	1			
March			18·15		0	1			
April			18·33		0	1			
May									
June			18·10		0	1			
					0	10			
Yarmouth—									
July			17·42		0	1			
August			16·75		0	1			
September			17·15		0	1			
October			16·81		0	1			
November			17·51		0	1			
December			17·51		0	1			
January			16.60		0	1			
February			17·00		0	1			
March			17·14		0	1			
April									
May									
June			17·05		0	1			
					0	10			
Charlottetown—									
July			17·56		0	1			
August			18·45		0	1			
September			17·41		0	1			
October			21·44		0	1			
November			18·30		0	1			
December			19·40		0	1			
January			19·70		0	1			
February			19·42		0	1			
March			21·13		0	1			
April			19·97		0	1			
May			19·81		0	1			
June			19·79		0	1			
					0	12			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard. 35 Grains.	No. of times in excess of allowance.	No. of Tests.	Highest Grains.	Lowest. Grains.	Average Grains.	Standard. 4 Grains.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	1	0	1	
									10	0	10	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	1	0	1	
									10	0	10	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
...	...	...	...	...	...	...	...	...	1	0	1	
									12	0	12	

APPENDIX

RETURN of the Illuminating Power and Purity of Gas

INSPECTION OFFICES.	ILLUMINATING POWER.						SULPHUR PER 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Winnipeg—									
July				22·28	0	1			
August				22·00	0	1			
September				20·52	0	1			
October				20·21	0	1			
November				19·82	0	1			
December				20·08	0	1			
January				21·10	0	1			
February				20·04	0	1			
March				20·62	0	1			
April				21·11	0	1			
May				19·94	0	1			
June				19·95	0	1			
					0	12			
Nanaimo—									
July				19·04	0	1			
August				18·29	0	1			
September				19·72	0	1			
October				18·72	0	1			
November				19·21	0	1			
December				18·48	0	1			
January				18·21	0	1			
February				17·85	0	1			
March				17·59	0	1			
April				19·34	0	1			
May				18·66	0	1			
June				19·10	0	1			
					0	12			
New Westminster—									
July						Nil			
August						"			
September						"			
October						"			
November						"			
December						"			
January						"			
February						"			
March						"			
April						"			
May						"			
June						"			
						"			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
											Nil	
											"	
											"	
											"	
											"	
											"	
											"	
											"	
											"	
											"	
											"	

APPENDIX

RETURN of the Illuminating Power and Purity of Gas

INSPECTION OFFICES.	ILLUMINATING POWER.						SULPHUR PER 100		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	16 Candles.			Grains.	Grains.	Grains.
Vancouver—									
July			18·42		0	1			
August			17·44		0	1			
September			18·23		0	1			
October			17·89		0	1			
November			18·68		0	1			
December			18·36		0	1			
January			18·48		0	1			
February			18·26		0	1			
March			18·15		0	1			
April			18·23		0	1			
May			18·23		0	1			
June			18·42		0	1			
					0	12			
Victoria—									
July			18 38		0	1			
August			18·10		0	1			
September									
October			18·07		0	1			
November			18·02		0	1			
December			18·10		0	1			
January			18·24		0	1			
February			18·11		0	1			
March			17·94		0	1			
April			18 44		0	1			
May			18·77		0	1			
June			18·02		0	1			
					0	11			

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

SESSIONAL PAPER No. 13

F—*Concluded.*

Inspected during the Year ended June 30, 1901.

Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen			Remarks.
Standard.	No. of times in excess of allowance.	No. of Tests.	Highest	Lowest.	Average	Standard.	No. of times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests	
35 Grains.			Grains.	Grains.	Grains.	4 Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									...	...	...	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									11	0	11	

W. J. GERALD,
Deputy Minister.

APPENDIX G.

STATEMENT of Gas Meters presented for Verification, Verified, Verified after first Rejection, and Rejected, during the Year ended June 30, 1901.

INSPECTION OFFICES.	Presented for Verification	Kind.		Verified as coming within the Error tolerated by Law.			Verified after First Rejection.			Rejected.			Totals. Verified and Rejected.	
		Wet.	Dry.	Correct.	Fast.	Slow.	Correct.	Fast.	Slow.	Unsound.	Fast.	Slow.	Verified.	Rejected.
Barrie	22	....	22	....	10	11	....	....	....	....	....	1	21	1
Belleville	74	....	74	12	33	22	....	....	....	4	3	....	67	7
Berlin	130	....	130	3	59	55	....	1	1	....	6	5	119	11
Brockville	236	....	236	55	111	60	....	3	1	1	2	3	230	6
Cobourg	43	....	43	4	8	29	....	....	1	....	....	1	42	1
Cornwall	4	....	4	....	1	3	....	....	....	....	....	....	4	....
Guelph	232	....	232	5	71	156	....	....	....	....	....	....	232	....
Hamilton	1,415	....	1,415	237	121	1,056	....	....	....	....	1	....	1,414	1
Kingston	229	....	229	82	29	117	....	....	....	....	....	1	228	1
Listowel	34	....	34	11	8	14	....	....	....	....	....	1	33	1
London	1,837	....	1,837	376	337	1,108	....	2	....	....	13	1	1,823	14
Napanee	29	....	29	9	7	10	....	....	....	....	2	1	26	3
Ottawa	537	1	536	28	56	450	....	....	....	....	1	2	534	3
Owen Sound	22	....	22	20	1	1	....	....	....	....	....	....	22	....
Peterborough	42	15	27	15	27	....	....	....	....	....	....	....	42	....
Sarnia	175	44	131	146	5	5	5	....	8	....	....	6	169	6
Stratford	37	....	37	3	11	19	....	....	....	....	2	2	33	4
Toronto	6,928	....	6,928	1,041	1,777	4,077	....	....	....	14	16	3	6,895	33
Montreal	5,650	....	5,650	651	761	4,197	....	....	....	2	33	6	5,609	41
Quebec	173	....	173	29	41	100	....	1	....	1	1	....	171	2
Sherbrooke	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fredericton	32	....	32	21	5	4	....	1	....	....	....	1	31	1
St. John	222	....	222	55	18	145	....	....	....	....	3	1	218	4
Halifax	257	174	83	170	31	55	....	....	....	....	1	....	256	1
Charlottetown	53	....	53	9	7	18	....	....	....	11	....	8	34	19
Winnipeg	421	....	421	35	7	379	....	....	....	....	....	....	421	....
Nanaimo	79	....	79	8	14	56	....	....	....	1	....	....	78	1
Vancouver	232	....	232	51	94	87	....	....	....	....	....	....	232	....
Victoria	153	....	153	36	42	75	....	....	....	....	....	....	153	....
Totals	19,298	234	19,064	3,112	3,692	12,309	5	8	11	34	84	43	19,137	161

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

APPENDIX H.

STATEMENT of Electric Light Inspection Expenditures and Revenues for the Year ended June 30, 1901.

Districts.	Inspectors.	Expenditures.					Revenues.	
		Special Assistance	Rent.	Travelling Expenses.	Sundries.	Totals.	Registration Fees.	Inspection Fees.
		$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Johnson, Wm			169 91	17 17	187 08	545 00	243 25
Hamilton	McPhie, D.			86 50	1 15	87 65	365 00	821 75
London	Nash, A. F.			97 00	4 00	101 00	680 00	581 75
Ottawa	Roche, H. G.						380 00	735 50
Toronto	Johnstone, J. K.			140 80	8 45	149 25	935 00	1,573 00
	Ontario			494 21	30 77	524 98	2,905 00	3,955 25
Montreal	Aubin, A	360 00		19 50	9 75	389 25	310 00	2,728 75
Quebec	LeVasseur, N				63 64	63 64	132 50	1,213 50
Sherbrooke	Simpson, A. F.			74 45	2 14	76 59	340 00	237 00
	Quebec	360 00		93 95	75 53	529 48	782 50	4,179 25
St. John	Wilson, J. R.			102 54	17 80	120 34	185 00	562 75
Halifax	Miller, A.			142 84	3 75	146 59	375 00	372 75
Winnipeg	Magness, R		27 00	162 00	8 75	197 75	275 00	428 77
Vancouver	Miller, J. E.						215 00	769 00
Victoria	Jones, R.			14 50	3 45	17 95	60 00	297 75
	British Columbia			14 50	3 45	17 95	275 00	1,066 75

RECAPITULATION.

	Salaries.							
Ontario				494 21	30 77	524 98	2,905 00	3,955 25
Quebec		360 00		93 95	75 53	529 48	782 50	4,179 25
New Brunswick				102 54	17 80	120 34	185 00	562 75
Nova Scotia and P.E.I				142 84	3 75	146 59	375 00	372 75
Manitoba			27 00	162 00	8 75	197 75	275 00	428 77
British Columbia				14 50	3 45	17 95	275 00	1,066 75
Chief Electrical Engr.	2,400 00	30 00		463 17	106 30	2,999 47		
General					4,199 26	4,199 26		
Printing					7 35	7 35		
Stationery					16 20	16 20		
Totals	2,400 00	390 00	27 00	1,473 27	4,469 16	8,759 37	4,797 50	10,565 52

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

APPENDIX I.

STATEMENT showing the number of Electric Light Meters Verified, Rejected, and Verified after first Rejection, in each Inspection District, for the Fiscal Year ended June 30, 1901.

DISTRICTS.	Number presented.	Verified as coming within the Error tolerated by Law.			Rejected.			Verified after first rejection as coming within the Error tolerated by Law.		
		Correct.	Fast.	Slow.	Unsound.	Fast.	Slow.	Correct.	Fast.	Slow.
Belleville	205	140	37	28						
Hamilton	578	464	42	72						
London	426	100	177	145		1	2	1		
Ottawa	809	86	249	462	6	2	4			
Toronto	761	106	282	176		2		62	55	78
Montreal	2,212	1,209	671	196	47	6	10	2	66	5
Quebec	1,633	561	574	492	2			1		
Sherbrooke	139	30	54	55						
St. John	398	73	205	120						
Halifax	458	308	97	16	2	23	4	5	2	1
Winnipeg	264	74	45	145						
Vancouver	691	226	177	288						
Victoria	349	98	149	102						
Totals	8,923	3,478	2,759	2,297	57	34	20	71	123	84

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

APPENDIX J.

STATEMENT showing the Electric light Companies registered under the Electric Light Inspection Act, during the Year ended June 30, 1901.

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Belleville. ...	Corporation of the Town of Pictou	1	C. I. R., Belleville	1900–1901	50	2,000	2,500	25 00	
	R. R. Casement & Co., Madoc	2	" "	"	.....	400	400	10 00	
	Pratt, Patching & Co., Tweed	3	" "	"	.....	650	650	10 00	
	Belleville Gas Co	4	" "	"	57	.....	570	10 00	
	Trenton Electric and Water Co., Ltd	5	" "	"	92	3,000	3,920	25 00	
	Marmora Electric Co. *	6	" "	"	.	270	250	5 00	
	Vankleek Hill Electric Co., Ltd	1	" Cornwall	"	.....	865	865	10 00	
	Municipal Corporation of the Village of Alexandria	2	" "	"	....	859	859	10 00	
	Stormont Electric Light and Power Co., Cornwall	3	" "	"	.....	1,400	1,400	25 00	
	Kingston Light, Heat and Power Co	1	" Kingston	"	115	2,500	3,650	25 00	
	Napanee Water and Electric Light Co., Limited	2	" "	"	24	850	1,090	25 00	
	Standard Electric Light Co., Napanee	3	" "	"	.....	2,100	2,100	25 00	
	Benjamin Manufacturing Co., of Yarker, Limited	4	" "	"	.....	210	210	10 00	
	A. A. Connelly, Yarker	5	" "	"	.....	85	85	10 00	
	Lakefield Electric Light Co	1	" Peterborough	"	40	.....	400	10 00	
	Fenelon Falls Electric Light Co., Ltd	2	" "	"	.....	600	600	10 00	
	Port Hope Electric Light and Power Co., Ltd	3	" "	"	39	900	1,290	25 00	
	Cobourg Water and Electric Co., Ltd	4	" "	"	2	1,200	1,450	25 00	
	James A. Spence, Colborne	5	" "	"	20	480	680	10 00	
	H. W. Foulds & Co., Hastings	6	" "	"	12	375	495	10 00	
	Peterborough Light and Power Co., Ltd	7	" "	"	120	7,000	8,200	25 00	
	W. C. Harrison, Norwood	8	" "	"	15	380	530	10 00	
	Light, Heat and Power Co., of Lindsay	9	" "	"	60	7,000	7,600	25 00	
	Bowmanville Electric Light Co., Ltd	10	" "	"	24	705	945	10 00	
	H. R. Carruthers, Millbrook	11	" "	"	10	120	220	10 00	
	Waterworks and Electric Light Commission of Campbellford	12	" "	"	36	1,282	1,642	25 00	
	D. J. Galbraith, Newcastle	13	" "	"	....	300	300	10 00	
	Cardinal Electric Light Co., Ltd	1	" Prescott	"	....	700	700	10 00	
	Kemptville Electric Light Co	2	" "	"	....	500	500	10 00	
	A. H. Merkley, Morrisburgh	3	" "	"	.....	850	850	10 00	
	Merrickville Electric Light and Power Co.	4	" "	"	.....	350	350	10 00	

* Registered for half a year, from January 1, 1901.

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, during the Year ended June 30, 1901.

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Belleville	Brockville Light and Power Co., Ltd	5	C. I. R. Hamilton	1900 1901	35	1,700	2,050	25 00	
	Electric Light and Water Works Commissioners of Prescott	6	" "	"	16	1,557	1,717	25 00	
	Gananoque Electric Light and Water Supply Co	7	" "	"	21	1,000	1,210	25 00	
									545 00
Hamilton	Simcoe Gas and Water Co	1	" Brantford	"	29	.....	290	10 00	
	H. Webster, Norwich	2	" "	"	.....	495	495	10 00	
	Tilsonburg Electric Light Works	3	" "	"	11	830	940	10 00	
	James Munro, Embro	4	" "	"	.....	410	410	10 00	
	Woodstock Electric Light and Street Railway Co., Ltd	5	" "	"	70	1,200	1,900	25 00	
	Port Rowan Electric Light Supply	6	" "	"	12	135	255	10 00	
	Brantford Street Railway Co	8	" "	"	.....	2,715	2,715	25 00	
	Ingersoll Electric Power and Light Co., Ltd	8	" "	"	36	1,040	1,400	25 00	
	Port Dover Electric Light Syndicate	9	" "	"	.....	350	350	10 00	
	Brantford Electric and Operating Co., Ltd	10	" "	"	200	5,500	7,500	25 00	
	Paris Electric Light Co., Ltd	11	" "	"	40	500	900	10 00	
	Hamilton Electric Light and Power Co., Ltd	1	" Hamilton	"	554	20,000	25,540	25 00	
	Hamilton Electric Light and Cataract Power Co., Ltd	2	" "	"	.....	200	200	10 00	
	Electric Power and Manufacturing Co., Ltd., Hamilton	3	" "	"	.....	200	200	10 00	
	Dundas Electric Co., Ltd	4	" "	"	6	895	955	10 00	
	Corporation of the Town of Niagara	1	" St. Catharines	"	.....	800	800	10 00	
	Corporation of the Town of Thorold	2	" "	"	30	587	887	10 00	
	St. Catharines Electric Light and Power Co., Limited	3	" "	"	75	2,500	3,250	25 00	
	Maple Leaf Rubber Co., Ltd., Port Dalhousie	4	" "	"	22	600	820	10 00	
	Dunnville Electric Light Co., Ltd	5	" "	"	18	914	1,094	25 00	
	J. W. Van Dyke, Grimsby	6	" "	"	.....	750	750	10 00	
	Welland Electric Light Co	7	" "	"	18	250	430	10 00	
	Ontario Electric Light and Power Co., Beamsville	8	" "	"	.....	250	250	10 00	
	Merritton Electric Light Co	9	" "	"	21	775	996	10 00	
	Wm. Cooke, St. Catharines	10	" "	"	.....	900	900	10 00	
	Maple Leaf Rubber Co., Ltd., Port Dalhousie	1	" "	1901 1902	15	306	456	10 00	
									365 00
London	London Electric Co., Ltd	1	" London	1900 1901	350	17,180	20,680	25 00	
	St. Thomas Gas Co	2	" "	"	105	2,000	3,050	25 00	

	Sarnia Gas and Electric Light Co.	3	"	"	"	65	750	1,400	25 00		
	Petrolia Electric Light, Heat and Power Co., Ltd.	4	"	"	"	41	2,000	2,410	25 00		
	Cook & Sons, Lucan	5	"	"	"	..	350	350	10 00		
	John Morwood, Alvinston	6	"	"	"	13	270	400	10 00		
	Hamilton & Prout, Forest	7	"	"	"	12	500	620	10 00		
	Strathroy Electric Co., Ltd	8	"	"	"	20	600	800	10 00		
	Fitzgerald & Sauermann, Watford	9	"	"	"	12	290	410	10 00		
	Bella A. Gordon, Glencoe	10	"	"	"	24	300	540	10 00		
	Dutton Electric Light Co., Ltd	11	"	"	"	4	376	416	10 00		
	H. C. Baird & Son, Parkhill	12	"	"	"	7	400	470	10 00		
	Aylmer Electric and Manufacturing Co., Ltd	13	"	"	"	12	800	920	10 00		
	West Lorne Electric Light Co., Ltd	14	"	"	"	6	144	204	10 00		
	Palmerston Electric Light Co	1	"	Stratford	"	4	600	640	10 00		
	St. Mary's Electric Light Co	2	"	"	"	13	750	880	10 00		
	Clinton Electric Light Co	3	"	"	"	14	650	790	10 00		
	J. G. Field, Tavistock	4	"	"	"		575	575	10 00		
	Jacob L. Eidt, Auburn	5	"	"	"		80	80	10 00		
	Wingham Electric Light Co	6	"	"	"	40	1,200	1,660	25 00		
	Corporation of the Town of Mitchell	7	"	"	"	36	550	910	10 00		
	J. A. Williams & Co., Zurich	8	"	"	"		200	200	10 00		
	Exeter Electric Light and Power Co., Ltd	9	"	"	"	10	800	900	10 00		
	Seaforth Electric Light, Heat and Power Co, Ltd	10	"	"	"	55	1,450	2,000	25 00		
	Cook & Sons, Hensall	11	"	"	"	1	500	510	10 00		
	Town of Goderich	12	"	"	"	33	1,800	2,130	25 00		
	Gaedke & Ries, Wroxeter	13	"	"	"		300	300	10 00		
	Stratford Gas Co	14	"	"	"	100	2,000	3,000	25 00		
	Brussels Electric Light Co	15	"	"	"	9	350	440	10 00		
	Blyth Electric Light Plant	16	"	"	"	12	400	520	10 00		
	John C. Hay, Listowel	17	"	"	"	23		230	10 00		
	Corporation of the Town of St. Mary's	18	"	"	"	40	1,500	1,900	25 00		
	People's Electric Co., Ltd., Windsor	1	"	Windsor	"	1	4,720	4,730	25 00		
	Hiram Walker & Sons, Ltd., Walkerville	2	"	"	"	8	2,500	2,580	25 00		
	Geo. Munro, Thamesville	3	"	"	"		500	500	10 00		
	Kingsville Electric Light Co	4	"	"	"		700	700	10 00		
	W. H. McMakon, Rigdetown	5	"	"	"	14	606	746	10 00		
	Amherstburg Electric Light, Heat and Power Co., Ltd	6	"	"	"		930	930	10 00		
	J. E. Gordon, Dresden	7	"	"	"		400	400	10 00		
	Essex Electric Light Co	8	"	"	"	12	588	708	10 00		
	Corporation of the Town of Bothwell	9	"	"	"	15	280	430	10 00		
	Lewis Goodchild, Harrow	10	"	"	"		350	350	10 00		
	Tilbury Electric Light Plant	11	"	"	"	13	450	580	10 00		
	Leamington Electric Light Co., Ltd	12	"	"	"	17	893	1,063	25 00		
	Chatham Gas Co., Ltd	13	"	"	"	4	1,500	1,540	25 00		
	Smith & Henderson, Blenheim	14	"	"	"	10	80	180	10 00		
	Wallaceburg Electric Light Co	15	"	"	"	20	1,000	1,200	25 00		
											680 00
Ottawa	Albert Maclaren, Buckingham	1	"	Ottawa	"		996	996	10 00		
	Deschênes Electric Co., Ltd	2	"	"	"		1,600	1,600	25 00		
	Ottawa Electric Co	3	"	"	"	585	80,000	85,850	25 00		
	Hull Electric Co	4	"	"	"	20	3,580	3,780	25 00		

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, during the Year ended June 30, 1901.

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Ottawa	Eganville Star Electric Light and Power Co	1	C. I. R., Perth	1900-1901	.....	500	500	10 00	
	Pakenham Electric Light Co	2	" "	"	...	350	350	10 00	
	John Bourke, North Bay	3	" "	"	15	1,100	1,250	25 00	
	Mattawa Electric Light and Power Co., Ltd	4	" "	"	2	963	983	10 00	
	Renfrew Electric Co., Ltd	5	" "	"	8	500	580	10 00	
	Pembroke Electric Light Co., Ltd	6	" "	"	22	2,950	3,170	25 00	
	Wm. A Mackay, Renfrew	7	" "	"	.....	990	990	10 00	
	Smith's Falls Electric Power Co.	8	" "	"	30	2,000	2,300	25 00	
	Perth Electric Light Co., Ltd	9	" "	"	46	.....	460	10 00	
	Almonte Electric Light Co., Ltd	10	" "	"	16	1,700	1,860	25 00	
	Arnprior Electric Light and Power Co., Ltd	11	" "	"	10	2,500	2,600	25 00	
	Carleton Place Electric Light Co	12	" "	"	28	1,800	2,080	25 00	
	Citizen's Electric Co,, Ltd., Smith's Falls	13	" "	"	. .	1,200	1,200	25 00	
	Canadian Electric and Water Power Co., Ltd., Perth	14	" "	"	. . .	2,500	2,500	25 00	
	C. Bonfield Electric Co., Eganville	15	" "	"	....	500	500	10 00	
	Corporation of the Town of Sudbury	16	" "	"	14	1,300	1,400	25 00	
									380 00
Toronto	Howes & Leighton, Harriston	1	" Guelph	"	12	300	420	10 00	
	Galt Gas Light Co., Ltd	2	" "	"	59	581	1,171	25 00	
	Corley & Collins, Mount Forest	3	" "	"	14	800	940	10 00	
	J. S. Shantz, Hespeler	4	" "	"	32	32	352	10 00	
	Wm. C. Shearer, Preston	5	" "	"	....	400	400	10 00	
	James Fenwick, Preston	6	" "	"	33	.....	330	10 00	
	Guelph Light and Power Co	7	" "	"	100	2,644	3,644	25 00	
	A. Groves, Fergus	8	" "	"	17	700	870	10 00	
	Waterloo Electric Light and Power Co	9	" "	"	20	1,500	1,700	25 00	
	Berlin Gas Co	10	" "	"	46	897	1,357	25 00	
	Adams Bros., Drayton	11	" "	"	5	260	310	10 00	
	Jacob Morley, New Hamburg	12	" "	"	21	325	535	10 00	
	N. Winger & Bros., Ayton	1	" Owen Sound	"	.. ..	150	150	10 00	
	Bearman & Co., Chesley	2	" "	"	20	700	900	10 00	
	Robert Young, Wiarton	3	" "	"	20	600	800	10 00	
	Thomas Andrews, Thornbury	4	" "	"	9	450	540	10 00	

Joseph Schnitzler, Mildmay	5	"	"	"		180	180	10	00
Teeswater Light and Power Co	6	"	"	"		400	400	10	00
Walter Stewart & Son, Lucknow	7	"	"	"	13	400	530	10	00
H. Genetzner, Hanover	8	"	"	"	16	1,400	1,560	25	00
Paisley Electric Light Co	9	"	"	"		522	522	10	00
Owen Sound Electric, Illuminating and Manufacturing Co., Limited	10	"	"	"	45	475	925	10	00
Kilmer, Crawford & McIntyre, Durham	11	"	"	"		820	820	10	00
Minnis Bros., Markdale	12	"	"	"		600	600	10	00
Walkerton Electric Light and Power Co., Ltd	13	"	"	"	20	1,300	1,500	25	00
Saugeen Electric Light and Power Co., Ltd., Southampton	14	"	"	"		1,300	1,300	25	00
Town of Kincardine	15	"	"	"		940	940	10	00
Corporation of the Town of Collingwood	16	"	"	"	36	2,000	2,360	25	00
W. Moore & Sons, Meaford	17	"	"	"	18	500	680	10	00
Corporation of the Village of Dundalk	18	"	"	"		450	450	10	00
Alexander Dobson, Beaverton	1	"	Toronto	"		510	510	10	00
Aurora Electric Light Co	2	"	"	"	2	450	470	10	00
Oshawa Electric Light Co., Ltd	3	"	"	"	25	600	850	10	00
Knight Bros. Co., Burk's Falls	4	"	"	"		570	570	10	00
Corporation of the Village of Acton	5	"	"	"		688	688	10	00
Toronto Electric Light Co., Ltd	6	"	"	"	1,450	80,000	94,500	25	00
Parry Sound Electric Light Co., Ltd	7	"	"	"	1	1,644	1,654	25	00
Corporation of the Town of Bracebridge	8	"	"	"		3,000	3,000	25	00
Port Perry Electric Light Co	9	"	"	"	12	275	395	10	00
Penetanguishene and Midland Electric Street Railway, Light and Power Company, Ltd	10	"	"	"	14	800	940	10	00
Tottenham Electric Light Plant	11	"	"	"		217	217	10	00
W. H. Summerfeldt & Sons, Sutton West	12	"	"	"		275	275	10	00
Lakefield and Whitby Electric Light Co	13	"	"	"	26	540	800	10	00
Corporation of the Town of Orillia	14	"	"	"	48	2,600	3,080	25	00
Cannington Electric Light Co	15	"	"	"	10	410	510	10	00
Alliston Electric Light Co	16	"	"	"	7	680	750	10	00
Stouffville Electric Light Co	17	"	"	"		375	375	10	00
Wright & McKinlay, Shelburne	18	"	"	"		100	100	10	00
Corporation of the Village of Markham	19	"	"	"		350	350	10	00
Tagona Water and Light Co., Sault Ste. Maria	20	"	"	"	62	2,523	3,143	25	00
Gravenhurst Electric Light and Power Co	21	"	"	"	10	870	970	10	00
Corporation of the Town of Barrie	22	"	"	"	50	4,000	4,500	25	00
John Philip, Grand Valley	23	"	"	"	3	600	630	10	00
Corporation of Huntsville	24	"	"	"		900	900	10	00
Simon Plewes, Creemore	25	"	"	"		400	400	10	00
Isaac J. Gould, Uxbridge	26	"	"	"	12	552	672	10	00
Milton Electric Light and Power Co., Ltd	27	"	"	"	20	425	625	10	00
Midland Electric Co., Ltd	28	"	"	"	35	900	1,250	25	00
Joseph Knox, Elmvale	29	"	"	"		500	500	10	00
Glen Williams Electric Light Co	30	"	"	"	18	600	780	10	00
Joseph Knox, Stayner	31	"	"	"		650	650	10	00
Orangeville Electric Light and Power Co	32	"	"	"	28	1,000	1,280	25	00
Hutton Electric Co., Brampton	33	"	"	"	30	648	948	10	00
Corporation of the Village of Beeton	34	"	"	"		775	775	10	00

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, during the year ended June 30, 1901.

District.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Toronto—*Con.*	C. M. B. Lawrence, Oakville	35	C. I. R., Toronto	1900 1901	25	740	990	10 00	
	Corporation of the Town of Newmarket	36	" "	" "	.....	1,038	1,038	25 00	
	J. M. Deagle, Erin	37	" "	" "	.....	200	200	10 00	
	Municipality of Weston	38	" "	" "	17	550	720	10 00	
									935 00
Montreal	La Corporation de la Ville de Joliette	1	" Joliette	"	33	1,773	2,103	25 00	
	Corporation of the Village of Huntingdon	1	" Montreal	"	.....	650	650	10 00	
	Royal Electric Co., Montreal	2	" "	"	2,564	93,498	119,138	25 00	
	La Compagnie de Lumière Electrique Impériale, Montréal	3	" "	"	44	13,512	13,952	25 00	
	J. T. Ayers, Lachute	4	" Montreal	"	.....	900	900	10 00	
	Jean Roux, Ste. Thérèse	5	" "	"	.....	200	200	10 00	
	La Compagnie d'Eclairage Electrique de Terrebonne	6	" "	"	.....	338	338	10 00	
	Gazette Printing Co., Montreal	7	" "	"	.....	800	800	10 00	
	Beauharnois Electric Light Co	8	" "	"	.....	350	350	10 00	
	St. Jérôme Power and Electric Light Co., Ltd	9	" "	"	.....	700	700	10 00	
	Corporation of the Town of Lachine	10	" "	"	50	1,300	1,800	25 00	
	Lachute Electric Light Co.	11	" "	"	.....	300	300	10 00	
	Lachine Rapids Hydraulic Land Co., Ltd., Montreal	12	" "	"	382	61,730	65,550	25 00	
	Valleyfield Electric Co., Ltd	13	" "	"	65	1,700	2,350	25 00	
	Standard Light and Power Co., Montreal	14	" "	"	40	400	800	10 00	
	Laurentian Water and Power Co., Ste. Agathe des Monts	15	" "	"	1	900	910	10 00	
	North Shore Power Co., Three Rivers	1	" Three Rivers	"	86	3,515	4,375	25 00	
	Achille Gagnon, Victoriaville	1	" Victoriaville	"	.....	2,000	2,000	25 00	
	Corporation of Drummondville	2	" "	"	.....	710	710	10 00	
									310 00
Quebec	La Compagnie des Eaux et de l'Electricité de Chicoutimi	1	" Quebec	"	.....	1,600	1,600	25 00	
	La Compagnie Manufacturière et Electrique de Montmagny	2	" "	"	2	980	1,000	10 00	
	Quebec Railway Light and Power Co.	3	" "	"	600	33,000	39,000	25 00	
	Jacques Cartier Water and Power Co., Quebec	4	" "	"	.....	10,000	10,000	25 00	
	The Fraserville Co., Ltd	5	" "	"	6	1,500	1,560	25 00	
	M. A. & H. Grandbois, St. Casimir	6	" "	"	...	250	250	10 00	
	Canadian Electric Light Co., Lévis	7	" "	"	.....	2,500	2,500	12 50	
									132 50

Sherbrooke.....	Knowlton Electric Light Co	1	"	Sherbrooke	"	.....	375	375	10 00			
	P. Champoux & Bros., Disraeli	2	"	"	"	.....	675	675	10 00			
	Sherbrooke Gas and Water Co	3	"	"	"	92	7,300	8,220	25 00			
	Corporation of the Town of Magog	4	"	"	"	.....	1,306	1,306	25 00			
	Coaticooke Electric Light and Power Co	5	"	"	"	28	1,200	1,480	25 00			
	Corporation of the Village of Granby	6	"	"	"	40	2,000	2,400	25 00			
	Farnham Electric Light Co	7	"	"	"	....	953	953	10 00			
	W. S. Foster, Waterloo	8	"	"	"	...	1,000	1,000	10 00			
	G. K. Nesbitt, Cowansville	9	"	"	"	...	400	400	10 00			
	Eastern Townships Electric Co., North Hatley	10	"	"	"	...	950	950	10 00			
	Stanstead Electric Light Co	11	"	"	"	19	725	915	10 00			
	French Bros., Sawyerville	12	"	"	"	...	80	80	10 00			
	Richmond County Electric Co , Richmond	13	"	"	"	.....	1,414	1,414	25 00			
	Napoléon Lemay, St. Camille	14	"	"	"	....	150	150	10 00			
	Parker & Howe, Dixville	15	"	"	"	.....	175	175	10 00			
	La Compagnie d'Eclairage Electrique de Mégantic	16	"	"	"	.....	680	680	10 00			
	M. S. Cornell & Sons, East Stanbridge	17	"	"	"	...	125	125	10 00			
	St. John's Electric Light Co	18	"	"	"	19	1,500	1,690	25 00			
	Cosey & Campbell, Bedford	19	"	"	"	.....	560	560	10 00			
	Canadian Woollen Mills Co., St. Hyacinthe	1	"	St. Hyacinthe..	"	...	20	20	10 00			
	La Compagnie de Gaz Electricité et Pouvoirs, St. Hyacinthe	2	"	" .	"	27	6,000	6,270	25 00			
	La Compagnie Electrique de Plessisville	3	"	" ..	"	....	1,288	1,288	25 00			
											340 00	
St. John..	Carleton Electric Light Co., St. John, N.B., West Side..	1	"	St. John.....	"	28	500	780	10 00			
	Fredericton Gas Light Co	2	"	"	"	75	250	1,000	25 00			
	Sackville Electric Light and Telephone Co	3	"	" ...	"	.....	450	450	10 00			
	Sussex Water and Electric Light Co	4	"	"	"	.....	575	575	10 00			
	Woodstock Electric Light Co., Ltd	5	"	"	"	...	850	850	10 00			
	St. Stephen Electric Light Co	6	"	"	"	50	1,050	1,550	25 00			
	Town of Campbellton	7	"	"	"	22	500	720	10 00			
	St. John Railway Co	8	"	"	"	420	9,800	14,000	25 00			
	City of Moncton Water and Light Department	9	"	"	"	96	1,156	2,116	25 00			
	Chatham Electric Light Co	10	"	"	"	.....	2,500	2,500	25 00			
	Small & Fisher Co., Ltd., Woodstock	11	"	"	"	.....	500	500	10 00			
											185 00	
Halifax.....	Prince Edward Island Electric Co., Charlottetown	1	"	Charlottetown..	"	85	7,000	7,850	25 00			
	Full Electric Co. of Prince Edward Island, Charlottetown	2	"	" ..	"	7	2,200	2,270	25 00			
	Montague Electric Co	3	"	" ..	"	.....	325	325	10 00			
	Kentville Electric Light and Power Co., Ltd	1	"	Halifax..... ..	"	.....	900	900	10 00			
	Digby Electric Light Plant	2	"	"	"	.....	500	500	10 00			
	Windsor Electric Light and Power Co., Ltd	3	"	"	"	....	2,500	2,500	25 00			
	Bridgewater Power Co., Ltd	4	"	"	"	.....	900	900	10 00			
	Edison Electric Light and Power Co. of Springhill, Ltd	5	"	"	"	3	570	600	10 00			
	Dartmouth Gas, Electric Light, Heatiug and Power Co., Ltd	6	"	"	"	....	850	850	10 00			
	Halifax Electric Tramway Co., Ltd	7	"	"	"	304	18,830	21,870	25 00			
	Bear River Electric Light, Heating and Power Co., Ltd	8	"	"	"	.....	400	400	10 00			
	Chambers Electric Light and Power Co., Truro	9	"	"	"	.....	1,300	1,300	25 00			
	Town of Parrsboro'	10	"	"	"	.....	776	776	10 00			
	Acadia Electric Light Co., Wolfville	11	"	"	"	.....	850	850	10 00			
	C. O'Dell Electric Light Co., Ltd., Annapolis	12	"	"	"	.....	700	700	10 00			

APPENDIX J—*Concluded.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, during the Year ended June 30, 1901.

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					*Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Halifax	John Christie, Shubenacadie	13	C. I. R., Halifax	1900 1901.	.....	320	320	10 00	
	Lunenburg Gas Co	14	" "	"	1	1,400	1,410	25 00	
	Yarmouth Street Railway Co., Ltd	15	" "	"	.....	200	200	10 00	
	Bridgetown Electric Light, Heat and Power Co	16	" "	"	.....	300	300	10 00	
	Yarmouth Gas Light Co., Ltd	17	" "	"	36	.....	360	10 00	
	Antigonish Electric Co	1	" Pictou	"	..	940	940	10 00	
	New Glasgow Electric Co., Ltd	2	" "	"	26	3,600	3,860	25 00	
	North Sydney Electric Light Co	3	" "	"	...	1,200	1,200	25 00	
	Sydney Gas and Electric Light Co	4	" "	"	3	2,500	2,530	25 00	
									375 00
Winnipeg	Calgary Water Power Co., Ltd	1	" Calgary	"	25	1,700	1,950	25 00	
	Lethbridge Waterworks and Electric Light Co., Ltd	2	" "	"	.....	1,000	1,000	10 00	
	Edmonton Electric Lighting and Power Co., Ltd	3	" "	"	.....	1,400	1,400	25 00	
	Corporation of the Town of Port Arthur	1	" Port Arthur	"	.....	1,130	1,130	25 00	
	Board of Water and Light Commissioners, Fort William	2	" "	"	400	2,300	6,300	25 00	
	Winnipeg Electric Street Railway Co	1	" Winnipeg	"	.....	12,000	12,000	25 00	
	Citizens' Telephone and Electric Co. of Rat Portage, Ltd	2	" "	"	45	6,000	6,450	25 00	
	Corporation of the Town of Neepawa	3	" "	"	11	800	910	10 00	
	Central Electric Co., Ltd., Portage la Prairie	4	" "	"	11	2,000	2,110	25 00	
	Brandon Electric Light Co., Ltd	5	" "	"	....	3,000	3,000	25 00	
	Prince Albert Electric Light and Power Co., Ltd	6	" "	"	... ..	475	475	10 00	
	W. J. Bruce & Co., Selkirk	7	" "	"	.....	750	750	10 00	
	Morden Electric Light Co	8	" "	"	.....	700	700	10 00	
	Regina Electric Light and Power Co	9	" "	"	6	1,300	1,360	25 00	
									275 00
Vancouver	British Columbia Electric Railway Co., Ltd., Vancouver	1	" Vancouver	"	411	29,424	33,534	25 00	
	Corporation of the City of Westminster	2	" "	"	91	5,000	5,910	25 00	
	Revelstoke Water, Light and Power Co., Ltd	3	" "	"	3	1,800	1,830	25 00	
	Corporation of the City of Nelson	4	" "	"	20	4,000	4,200	25 00	
	West Kootenay Power and Light Co., Ltd	5	" "	"	20	4,000	4,200	25 00	
	Greenwood Electric Co., Ltd	6	" "	"	6	1,500	1,560	25 00	
	Sandon Waterworks and Light Co	7	" "	"	1	243	253	10 00	
	Corporation of the City of Grand Forks	8	" "	"	....	900	900	10 00	

	Canadian Smelting Works, Trail	9	"	"	"	10	450	550	10 00		
	Kootenay Electric Co., Limited	10	"	"	"	.....	846	846	10 00		
	Corporation of the City of Kamloops	11	"	"	"	.....	1,200	1,200	25 00		
Victoria	Victoria Electric Co., Ltd.	1	"	Victoria	"	.....	300	300	10 00	215 00	
	Nanaimo Electric Light, Power and Heating Co.	2	"	"	"	52	1,100	1,620	25 00		
	British Columbia Electric Railway Co., Ltd., Victoria	3	"	"	"	29	18,000	18,290	25 00	60 00	
										4,797 50	

*Each arc lamp is reckoned as equal to ten incandescent.

INLAND REVENUE DEPARTMENT,
OTTAWA, August 10, 1901.

W. J. GERALD,
Deputy Minister.

DOMINION ELECTRICAL STANDARDS

BY

ORMOND HIGMAN, M. INST. E. E.; A. M. CAN. SOC. C. E.,

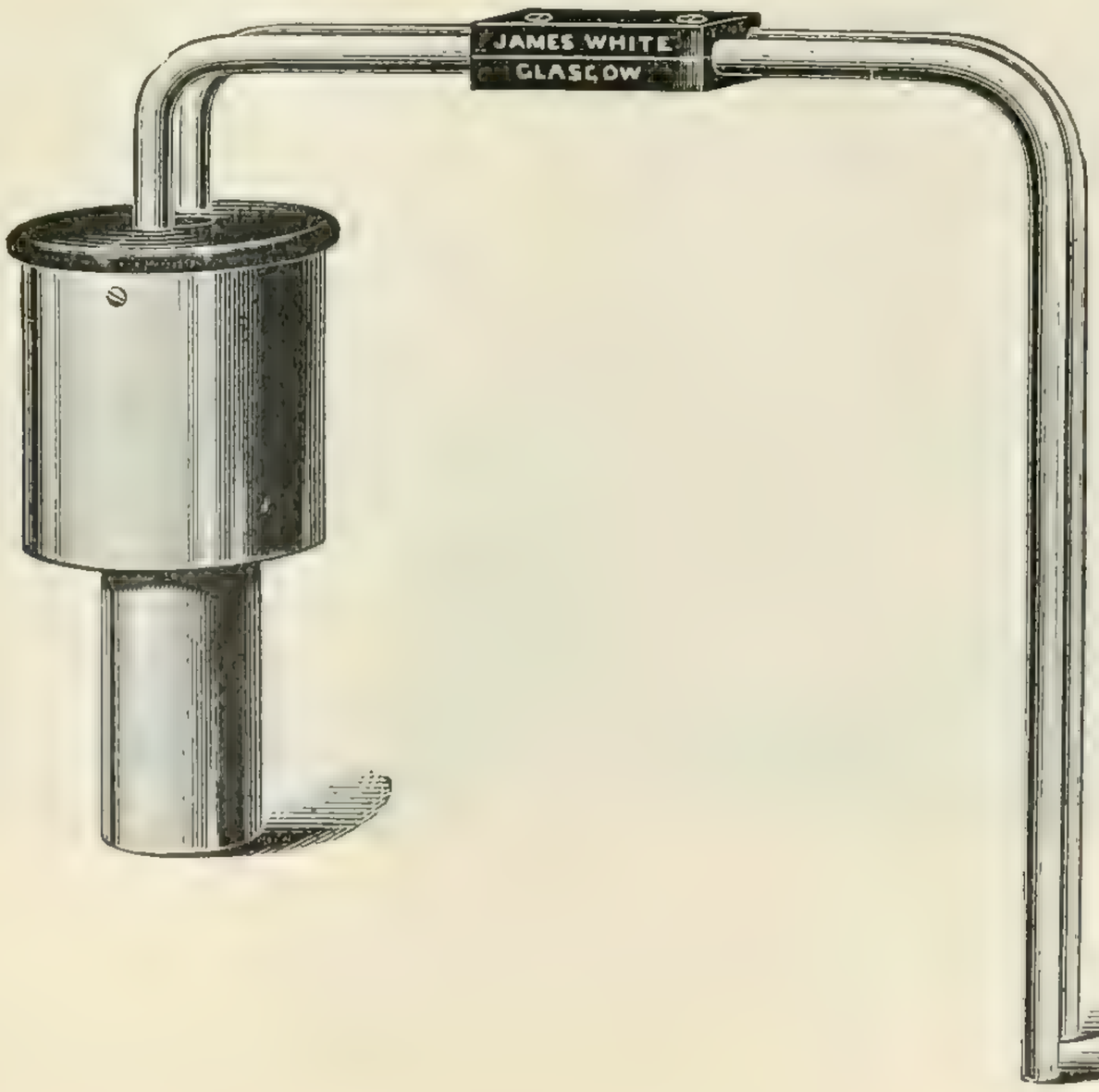
Chief Electrical Engineer, Inland Revenue Department.

In 1894 when Parliament passed the Electrical Units Act, (Schedule A.) the writer was called upon to procure the apparatus necessary to produce and express the standard units therein legalized.

In seeking for guidance in the discharge of this important and responsible duty, I naturally turned to the brilliant work accomplished by the Committee on Electrical Standards appointed by the British Association in the seventies, and the no less brilliant work accomplished by the Electrical Standards Committee of the Board of Trade and contained in their report to Parliament in 1891-92. The results of the labours of these committees will, I venture to say, be found to be the most interesting and instructive chapters in the history of electrical science. At the period when they commenced their labours the experimental sciences of electricity and magnetism were, for the most part, mere collections of qualitative results estimated by means of units which were altogether arbitrary. The work of the committees changed experimental electricity into an exact science by adopting the C. G. S. system as their fundamental basis, and which enabled them to express their results in units that are altogether independent of instruments or surroundings. For practical purposes, however, it was necessary that the units should find expression in apparatus, the accuracy and constancy of which could not be questioned. For the absolute measurement of current and electro-motive force, both varying and unvarying, Lord Kelvin's instruments were recommended. The following apparatus has been procured by the department as Standards of Electrical measure; and although not by any means complete, I am glad to be able to report that substantial progress has been made in complying with the requirements of section 3 of the Units Act.

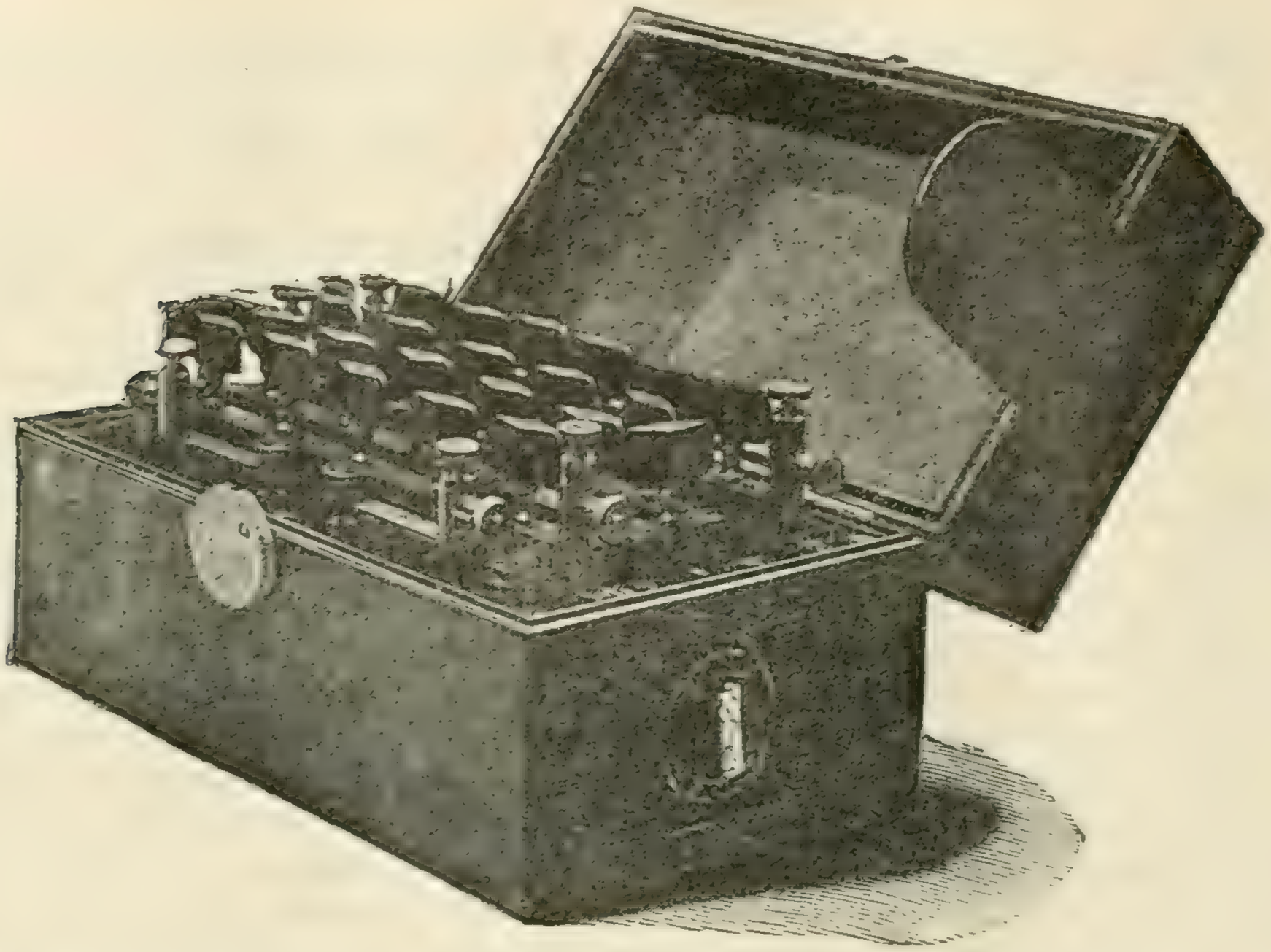
STANDARDS OF RESISTANCE.

Two standard ohms, one of the Board of Trade and one of the Reichsanstalt (Berlin) pattern.

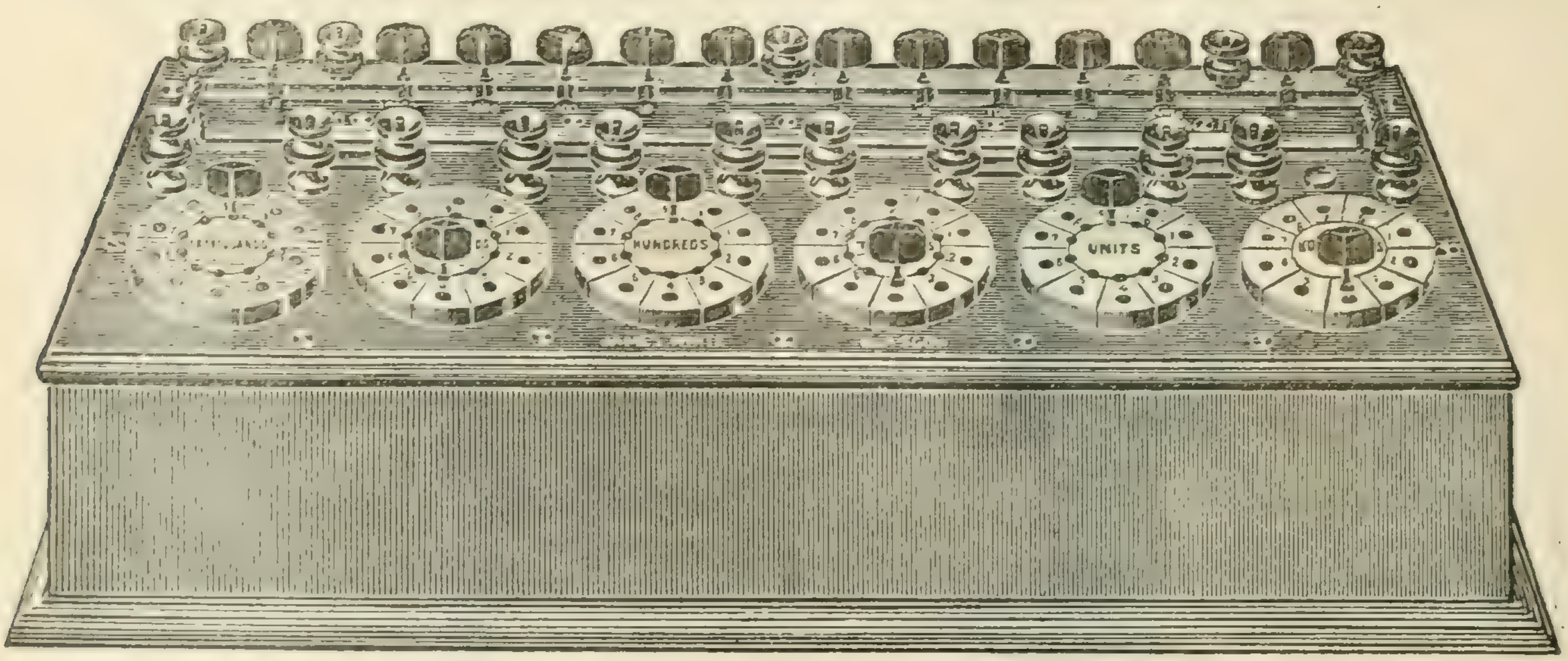


One resistance box containing ten 1 ohm coils with suitable plugging arrangements for putting the coils in series as a 10 ohm standard or in multiple as a $\frac{1}{10}$ ohm standard.

One Kelvin resistance coil 100,000 ohms with 10 sub-divisions of 10,000 ohms, each arranged with plugs for connecting in series or in parallel or any combination of series and parallel.



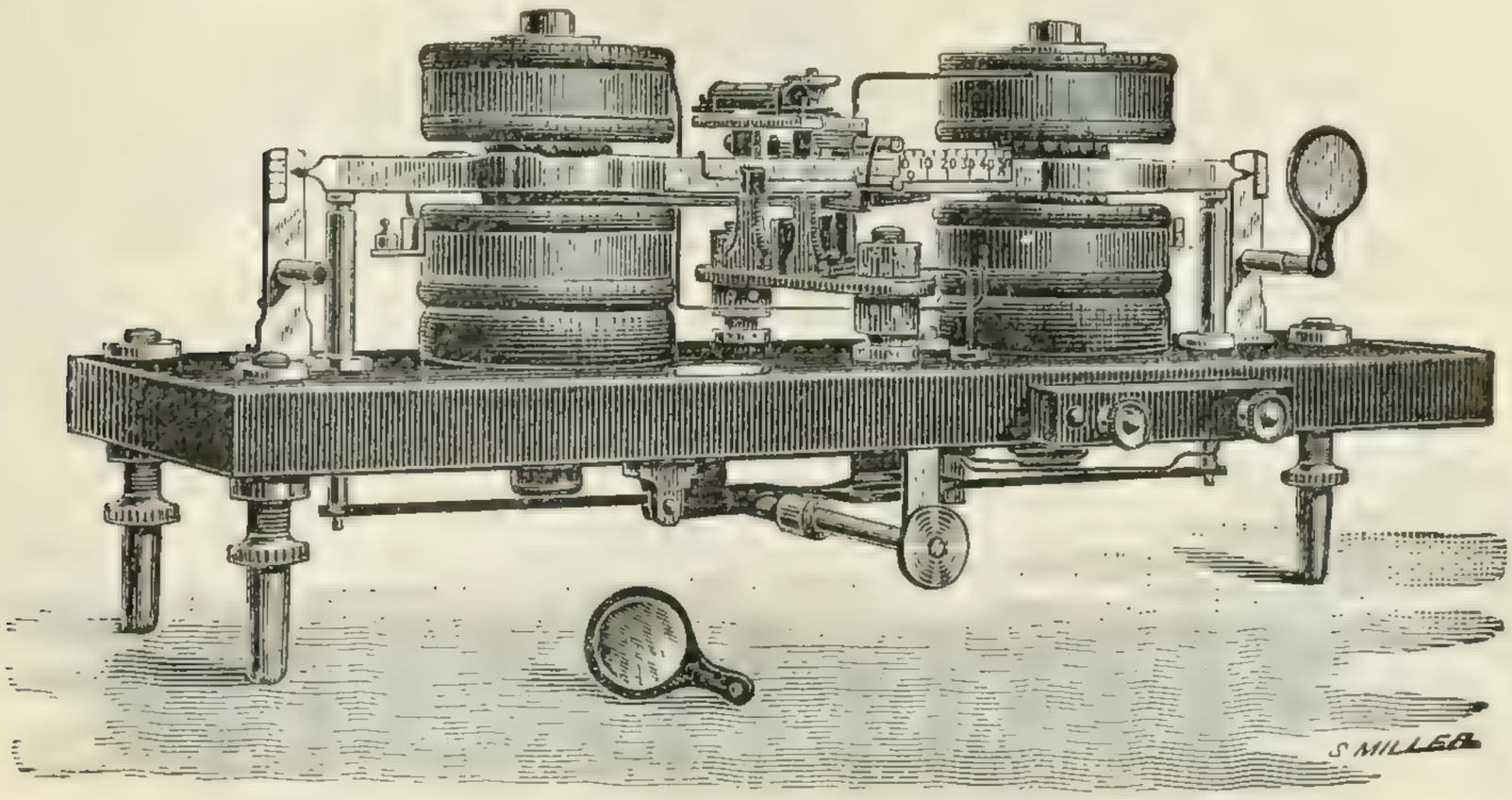
One Wheatstone Bridge (Anthony pattern) with ratio coils 1, 10, 100, 1,000 and 10,000 on each side with bridge coils of tenths, units, tens, hundreds and thousands. These coils are made of manganin wire specially selected and the box is fitted with an electric thermometer. Measurements of great accuracy can be obtajned with this bridge used in conjunction with a sensitive reflecting D'Arsonval galvanometer. Intercomparisons between these standards will be made from time to time and records kept of their variations.



MEASUREMENT OF CURRENT.

For the measurement of current a set of Lord Kelvin's balances has been provided covering the following ranges:

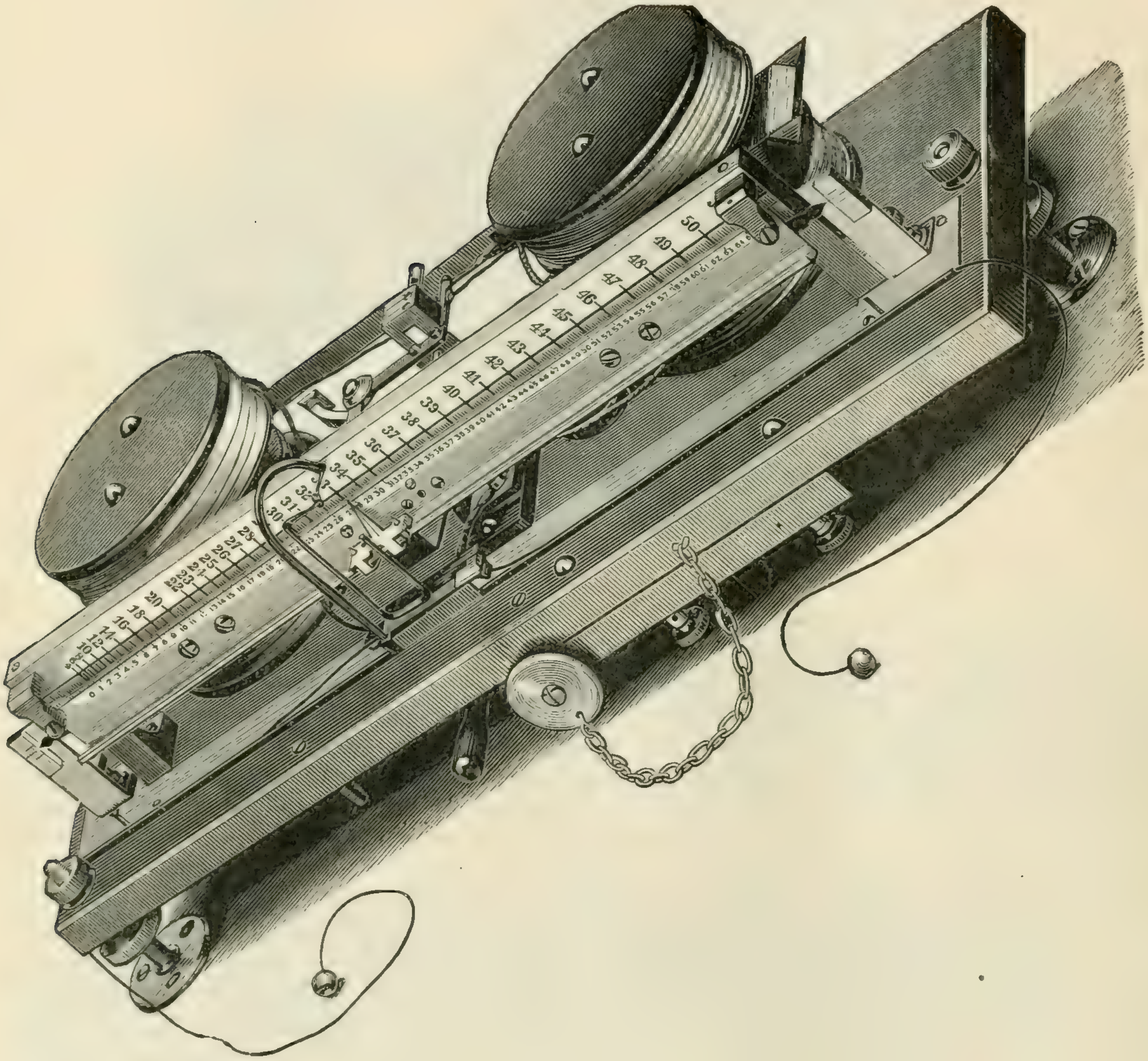
0	to	1	ampere.
1	to	5	"
5	to	25	"
25	to	125	"



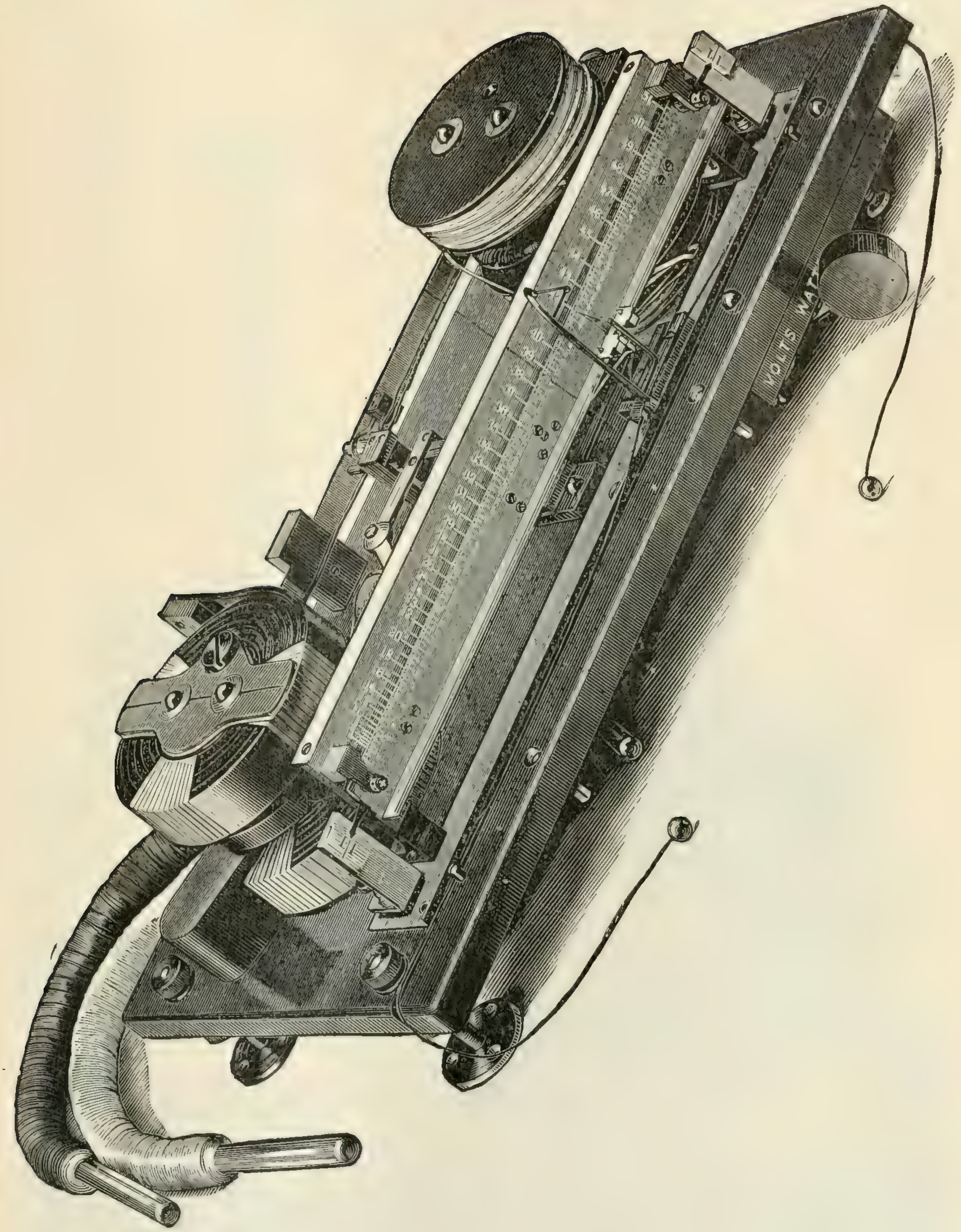
These instruments are founded on the mutal forces, discovered by Ampere, between movable and fixed portions of an electric circuit. The shape chosen for the mutually influencing portions is circular and are called by Lord Kelvin 'Ampere Rings'. In each of the instruments each movable ring is actuated by two fixed rings, all three approxi nately horizontal. There are two such groups of three rings—two movable rings attached to the two ends of a horizontal balance arm pulled, one up and the other down by a pair of fixed rings in its neighbourhood. The current is in opposite directions in the movable rings to practically annul disturbances due to horizontal components of terrestrial or local magnetic forces. It is fortunate that these magnetic disturbances have been thus annulled for reasons that will be alluded to presently. In all of the balances the current goes in opposite directions through the two fixed rings, so that the movable ring is attracted by one of the fixed rings and repelled by the other. The balances were constructed specially for the department and are a modification of the ordinary type. They are intended as ultimate standards, great accuracy and permanency being guaranteed. The scale and sliding weights are taken away and the beam is made specially strong and has a pointer at each end. A scale pan is hung at each end of the beam, and the distance from coil to coil is greater than in the ordinary balance. The method of making an observation is by placing a weight of fixed amount on the left hand scale pan, and the beam is balanced with no current through the coils; the weight is then lifted to the right hand scale pan and the current turned on. The amount of current passing is adjusted till the beam again balances, when the current will be according to the value of the weight used. Tests, having an accuracy of $\frac{1}{2}\frac{1}{0}$ of 1 per cent can be quickly made, and with more careful manipulation, a much higher degree of accuracy can be attained.

For purposes of graduation or standardization, the silver voltameter is used. It is one of the most accurate for calibrating current measuring instruments. It depends on the well-known principle that when a current of electricity flows through an electrolyte, the amount of decomposition resulting in a given time is directly proportional to the

total quantity of electricity which has passed in that time. For any substance 1 coulomb will always decompose or liberate at the cathode the same fixed weight of the substance and is defined as its electro-chemical equivalent. The latest experiments agree in giving 0·001118 (9,634 C.G.S. units) as the electro-chemical equivalent of silver. The specification for the electrolyte is given in schedule B. A more convenient, if not

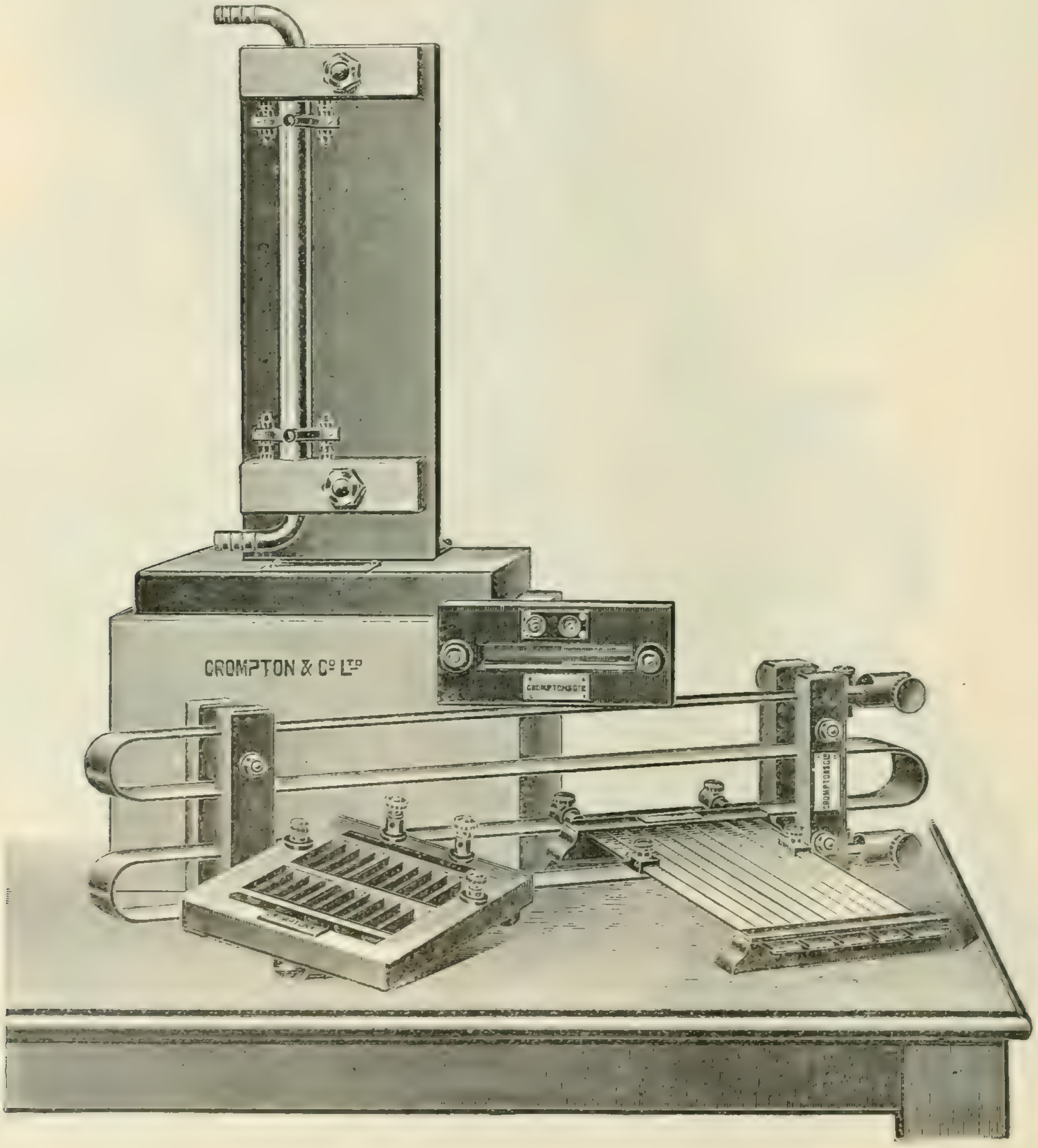


quite as accurate a method is the copper cell. The exerimenter should be careful to procure pure copper sulphate and plates and the use of a chemical balance. A small quanti y of sulphuric acid will improve the electrolyte. The electro-chemical equivalent of copper is 0·00337 or 1·177 grammes of copper are deposited per ampere hour, approximately.


VOLTS
WATTS

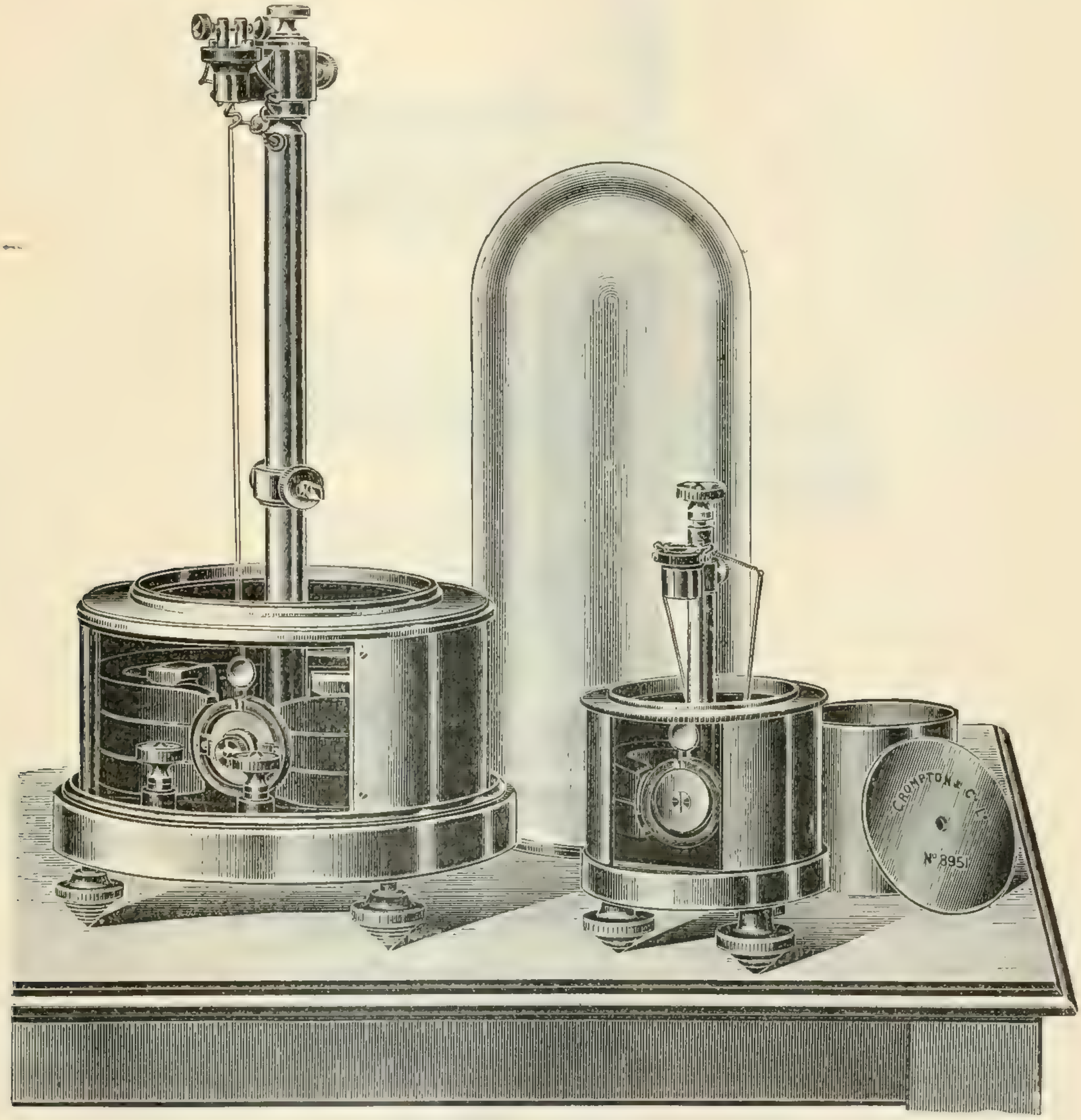
Another method for the measurement of current and the standardization of instruments is the fall of potential or potentiometer method. The department is now installing one of Crompton's laboratory instruments of this type, made expressly to order and suitable for reproducing and comparing standards with the highest possible degree of accuracy. Standard resistances of the following capacity are furnished with the instrument for current measurement :—

Resistance in ohms.	Maximum current in amperes.
1.	1.5
.5	3.
.1	15.
.01	150.
.005	300.



These resistances consist of a sheet or strip of metal, or a coil of wire, each provided with four terminals, two for connection to the circuit and two for connection to the potential leads. The resistances are made of manganin and owing to the exceedingly low temperature co-efficient of the alloy, no temperature correction is necessary except for accuracies exceeding 1 part in 1,000 when a curve giving the temperature value of the

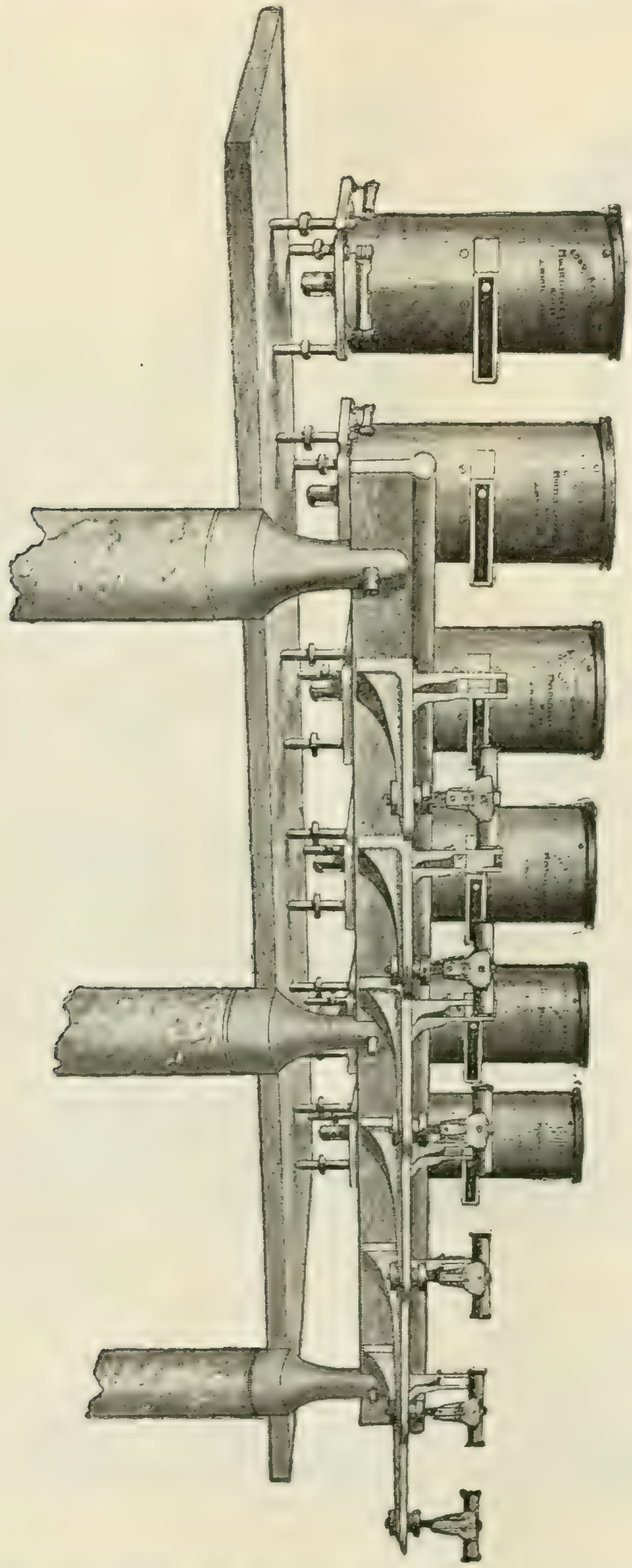
whole range of current that the instrument is capable of carrying is supplied. The current to be measured is passed through one ef these standard resistances and the fall of potential noted. If the resistance standards are properly proportioned to the instrument, the reading in amperes will be direct. Thus a standard carrying 1,500 amperes should cause a fall of 1·5 volts, each section of the instrument being equivalent to $\frac{1}{10}$ of a volt will therefore correspond to 100 amperes. The accuracy of the apparatus for current measurement, as will be observed, is largely dependent on the accuracy with which the standard resistances are constructed.



Another and similar method for the measurement of current by the fall of potential is that known as the "Vienna method." A set of instruments comprising a Weston milli-voltmeter and shunt box have been procured and forms one of the most flexible, and at the same time, accurate means of current measurement. In this as in the preceding method, if the resistances are proportional to the voltmeter, the reading in amperes will be direct. The resistances in the shunt box are made of manganin alloy with practically no temperature variation and are correct to $\frac{1}{5}$ of 1 per cent. The combination gives three full scale readings as follows:— From 0 to 1.5 ampere, from 0 to 15 amperes, and from 0 to 150 amperes. Tests can be made with great rapidity and readings on each scale from a small fraction of an ampere up to 150 amperes can be had in the space of two or three minutes.

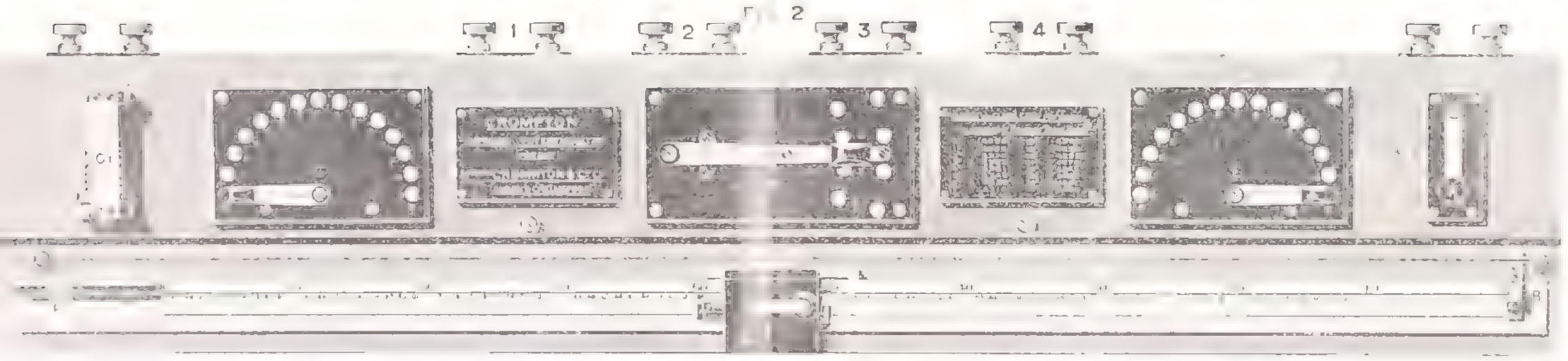
MEASUREMENT OF ELECTRO-MOTIVE FORCE.

Primary Standards.—Two standard Clark cells; three Hibbard 1 volt cells and a set of six special standard multicellular electrostatic voltmeters by Lord Kelvin. The latter covers a range of from 20 to 3,200 volts and was specially constructed for the department as ultimate standards of E.M.F. great accuracy and permanency, being guaranteed. During the two years since the instruments were first installed, the



variation in the calibrating curves has been less than 1 part in 10,000. These instruments have the great advantage of being equally accurate on direct or alternating circuits. Being electro-static, they use no current and are unaffected by local magnetic conditions. They can be kept continuously in circuit and require no temperature correction.

The instruments are calibrated by comparison with the difference of potential between the terminals of a known resistance through which the current is being


1
2
2
3
4

measured by means of a Kelvin standard centi-ampere balance, or by the potentiometer method.

Inter-comparisons with the standard e.m.f. cells are periodically made and all variations recorded. The method of comparison followed is that known as the Clark-Poggendorff method and consists in the balancing of electro-motive forces against one another by the changing of resistances. It is preferred over most other methods for the reason that it is both a *zero* and *null* method. The apparatus used comprise a sensitive galvanometer, two or three cells of working battery, the E. M. Fs. E_1 and E_2 to be compared and adjustable high resistances r_1 and r_2. Different readings of resistances are made and a comparison of the E. M. F. obtained from the relation :—

$$E_1 : E_2 = r_1 : r_2.$$

The specification for the standard Clark cell will be found in Schedule C.

THE POTENTIOMETER.

This excellent piece of laboratory apparatus and its adjuncts, though equally applicable to the measurement of current and resistance more properly comes under the head of E. M. F. standards for treatment. The fall of potential method of making measurements originated with Poggendorf, but the credit for developing the system from a crude workshop method up to what may fairly be described as a scientific instrument of no mean calibre, mainly belongs to Col. R. E. Crompton, of London. Measurements from the lowest to the highest value may be taken by direct comparison with the legal standard, to well within $\frac{1}{10}$ of one per cent under ordinary circumstances, whilst by special care a far higher degree of accuracy may be attained.

The form of instrument now being furnished the department by the Messrs Crompton may be said to consist of 15 sections of wire connected in series, 14 of which are in the form of coils within the instrument, the 15th being stretched along a scale suitably divided ; they are accurately adjusted with each other, so that with a fixed e. m. f. of 1·5 volts over the whole, each section has a fall of $\frac{1}{10}$ of a volt, the scale beneath the slide wire having 1,000 divisions, each corresponding therefore, to $\frac{1}{10000}$ of a volt. The unknown quantity to be measured is placed in series with a galvanometer attached to the movable contacts on the slide wire and is so connected up that its e. m. f. opposes that of the main circuit of the instrument. No deflection of the galvanometer takes place when the point of balance between the opposing e. m. f's. is obtained. The value of the comparison is then read from the scale. The instrument is calibrated by substituting for x a known value or standard—in this case a standard Clarke's cell—its temperature noted, and the contacts on the slide wire placed upon the figures corresponding with the value of the cell which would be 1.434 or 14 and 34. Resistance is added in the main circuit until there is no deflection on the galvanometer due to the fact of the e. m. f's. in the main and galvanometer circuits being equal ; the instrument is thus standardized from what afterwards becomes the x circuit and is then ready for obtaining the value of unknown e. m. f's. Multiples and submultiples of the ohm are used to vary the range of the instrument. They are so proportioned that their maximum carrying capacity is some definite value proportional to that of the instrument (1·5 volts) and it is entirely upon them that the range of the apparatus depends. Given proper standard resistances, the range of the instrument is practically illimitable.

Weston standard voltmeters are used as secondary standards of e. m. f., both for direct and alternating current.

One of these, for alternating current work was, specially made for our laboratory and has its coils and working parts immersed in oil, thus making it absolutely *dead beat* in its operation. It is supplied with a differential scale giving readings to $\frac{1}{5}$ volt. These voltmeters are furnished with multipliers giving ranges from 0 to 1,500 volts and accurate to within $\frac{1}{10}$ of one per cent.

MEASUREMENT OF ELECTRICAL ENERGY

One Standard Kelvin Watt Balance.—This balance is intended to measure the true energy developed in an inductive alternating current circuit. It is similar in form to the Ampere Balances, but the movable coils are wound with fine wire. These coils are of low resistance and are joined up in series with a large non-inductive resistance in a potential circuit across the mains, while the fixed coils carry the whole current to be measured. Three sets of weights are supplied with the instrument weighing respectively 1·7564 grms., 4·3910 grms., and 17·5640 grms. The constant for each set of weights with 1·000 ohms in the fine wire circuit is 2 watts, 5 watts and 20 watts per division of the scale. The constants vary directly as the resistance in the fine wire circuit. This instrument has proven to be an excellent standard having been in constant use for four years with absolutely no change in its accuracy.

Secondary Watt Standards in use by the departmental officers are those of the Weston and Hoyt types.

ACCESSORIES.

The following apparatus as accessories to the foregoing standards have been installed in the department:—

One 5 Kilowatt rotary transformer 500 to 120 volts for charging storage batteries;

One 5 Kilowatt alternator 60 cycles 104 volts.

One 5 Kilowatt alternator 130 cycles 104 volts.

One 5 Kilowatt direct current motor for operating the alternators.

300 small cells of secondary battery as a source of e. m. f. for direct current pressure tests.

55 cells type E 9 chloride accumulators for operating the direct current motor.

The alternators are so constructed as to admit of wide ranges of variation both in respect of voltage and frequency.

PHOTOMETERIC MEASUREMENT OF LIGHT.

The Bunsen Photometer is used throughout the Dominion by the officers of the department. This piece of apparatus is so well known that a lengthy explanation of it before this association would be quite unnecessary. It is known as the grease spot method, and consists mainly of a wooden movable frame over which a piece of white paper is fixed with a grease spot in the centre. The two sources of light to be compared shines on either side of the disc and the practical value of the light to be measured is determined by the total brightness which that light is capable of producing on the disc when compared with the total brightness which the unit candle is capable of producing on the same surface. In order that both sides of the disc may be read simultaneously, a system of mirrors, introduced by Rudorff, is used. The sliding carriage containing this arrangement of disc and mirrors is moved along the scale until it reaches a point where the spot entirely disappears. The candle-power of the light being measured is then obtained by dividing the square of the distance of the source of light from the screen by the square of the distance of the standard candle from the screen. Notwithstanding the fact that the sperm candle is not a first-class standard, fairly accurate work can be done with it. The incandescent lamp is now more or less used as a secondary standard for the practical measurement of light, but the system is dependent on too many conditions being fulfilled to be accepted with any degree of confidence. Sir William Preece, among a number of others, considered that an incandescent lamp of a given type, coming from the same maker, present only insignificant differences among themselves with respect to luminous intensity and efficiency, and he was of the opinion that a very convenient standard of this kind sufficiently exact for most purposes might be obtained. The subject of photometery and light standards, however, is a large one and had better be reserved for treatment on some future occasion.

SCHEDULE A.

57-58 VICTORIA.

CHAP. 38.

An Act respecting the Units of Electrical Measure.

[*Assented to 23rd July, 1894.*]

HER Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows :—

1. This Act may be cited as *The Electrical Units Act.* Short title.

2. The units of electrical measure for Canada shall be the following :— Units established.

(*a.*) As a unit of resistance, the ohm, which is based upon the ohm equal to 10^9 units of resistance of the centimetre-gramme-second system of electro-magnetic units, and is represented by the resistance offered to an unvarying electric current by a column of mercury, at the temperature of melting ice 14·4521 grammes in mass, of a constant cross-sectional area and of the length of 106·3 centimetres. Ohm.

(*b.*) As a unit of current, the ampere, which is one-tenth of the unit of current of the centimetre-gramme-second system of electro-magnetic units, and is represented sufficiently well for practical use by the unvarying current which, when passed through a solution of nitrate of silver in water, and in accordance with the specification contained in schedule one to this Act, deposits silver at the rate of 0·001118 of a gramme per second. Ampere.

(*c.*) As a unit of electro-motive force, the volt, which is the electro-motive force that, steadily applied to a conductor whose resistance is one ohm, will produce a current of one ampere, and which is represented sufficiently well for practical use by $\frac{1000}{1434}$ of the electro-motive force between the poles or electrodes of the voltaic cell known as Clark's cell, at a temperature of 15° centigrade and prepared in accordance with the specification contained in schedule two to this Act. Volt.

(*d.*) As a unit of quantity, the coulomb, which is the quantity of electricity transferred by a current of one ampere in one second. Coulomb

(*e.*) As a unit of capacity, the farad, which is the capacity of a condenser charged to a potential of one volt by one coulomb. Farad.

Joule. (*f.*) As a unit of work, the joule, which is equal to 10^7 units of work in the centimetre-gramme-second system, and is represented sufficiently well for practical use by the energy expended in one second by one ampere in one ohm.

Watt. (*g.*) As a unit of power, the watt, which is equal to 10^7 units of power in the centimetre-gramme-second system, and is represented sufficiently well for practical use by the work done at the rate of one joule per second.

Henry. (*h.*) As the unit of induction, the henry, which is the induction in a circuit when the electro-motive force induced in that circuit is one volt, while the inducing current varies at the rate of one ampere per second.

Units and apparatus to be in Department of Inand Revenue.

3. The units of electrical measure described in the next preceding section, or such standard apparatus as is necessary to produce them, shall be deposited in the Department of Inland Revenue and shall form part of the system of standards of measure and weight established by *The Weights and Measures Act.*

SCHEDULE B.

In the following specification, the term silver voltameter means the arrangement of apparatus by means of which an electric current is passed through a solution of nitrate of silver in water. The silver voltameter measures the total electrical quantity which has passed during the time of the experiment; and by noting this time, the time-average of the current, or, if the current has been kept constant, the current itself, can be deduced.

In employing the silver voltameter to measure currents of about one ampere, the following arrangements should be adopted. The cathode on which the silver is to be deposited should take the form of a platinum bowl not less than 10 centimetres in diameter and from 4 to 5 centimetres in depth. The anode should be a plate of pure silver 30 square centimetres in area and 2 or 3 millimetres in thickness. This is supported horizontally in the liquid near the top of the solution by a platinum wire passed through holes in the plate at opposite corners. To prevent the disintegrated silver which is formed on the anode from falling on to the cathode, the anode should be wrapped round with pure filter paper, secured at the back with sealing wax.

The liquid should consist of a neutral solution of pure silver nitrate containing about 15 parts by weight of the nitrate to 85 parts of water.

The resistance of the voltameter changes somewhat as the current passes. To prevent these changes having too great an effect on the current, some resistance besides that of the voltameter should be inserted in the circuit. The total metallic resistance of the circuit should not be less than 10 ohms.

SCHEDULE C.

The cell consists of zinc and mercury in a saturated solution of zinc suiphate and mercurous sulphate in water, prepared with mercurous sulphate in excess, and is conveniently contained in a cylindrical glass vessel.

The mercury.—To secure purity it should be first treated with acid in the usual manner, and subsequently distilled *in vacuo*.

The zinc.—Take a portion of a rod of pure re-distilled zinc, solder to one end a piece of copper wire, clean the whole with glass paper, carefully removing any loose pieces of the zinc. Just before making up the cell, dip the zinc into dilute sulphuric acid, wash with distilled water, and dry with a clean cloth or filter paper.

The zinc sulphate solution.—Prepare a saturated solution of pure ("pure re-crystallized") zinc sulphate by mixing in a flask distilled water with nearly twice its weight of crystals of pure zinc sulphate, and adding zinc oxide in the proportion of about 2 per cent by weight of the zinc sulphate crystals to neutralize any free acid. The crystals should be dissolved with the aid of gentle heat, but the temperature to which the solution is raised should not exceed 30° C. Mercurous sulphate treated as hereinafter described, should be added in the proportion of about 12 per cent by weight of the zinc sulphate crystals, and the solution filtered, while still warm, into a stock bottle. Crystals should form as it cools.

The mercurous sulphate.—Take mercurous sulphate, purchased as pure, and wash it thoroughly with cold distilled water by agitation in a bottle; drain off the water, and repeat the process at least twice. After the last washing, drain off as much of the water as possible.

Mix the washed mercurous sulphate with the zinc sulphate solution, adding sufficient crystals of zinc sulphate from the stock bottle to ensure saturation, and a small quantity of pure mercury. Shake these up well together to form a paste of the consistence of cream. Heat the paste, but not above a temperature of 30° C. Keep the paste for an hour at this temperature, agitating it from time to time; then allow it to cool, continuing to shake it occasionally while cooling. Crystals of zinc sulphate should then be distinctly visible, and should be distributed throughout the mass. If this is not the case, add more crystals from the stock bottle, and repeat the whole process. This method ensures the formation of a saturated solution of zinc and mercurous sulphates in water.

Contact is made with the mercury by means of a platinum wire about No. 22 gauge. This is protected from contact with the other materials of the cell by being sealed in a glass tube. The ends of the wire project from the ends of the tube; one end forms the terminal; the other end and a portion of the glass tube dip into the mercury.